10 STREET BIKES UNDER $400

MOTORCYCLIST

Motorcyclist

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02179 JUNE 1973

HEAD-TO-HEAD 250 MX BATTLE

SUZUKI CHAMPION
HONDA ELSINORE
YAMAHA MX 250
KAWASAKI F-11M

How To: Rebuild Betor Shocks

Summertime Tune-Up Fix-up Tips

How To Ride Rocks by Malcolm Smith

The AMA What Is It? Why Is It? Do We Need It?

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Motorcyclist

PUBLISHED MONTHLY • NO. 912 • JUNE 1973

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COVER

There they are—Japan's latest offerings in the highly copetitive 250 moto-cross class. See how they stack up with each other, starting on page 38, and later we'll see how they compare with the best Europe has to offer. Photography by Eric Rickman.

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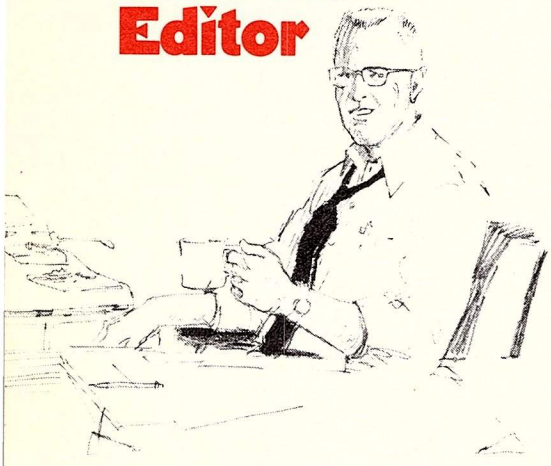
Coffee Break with the Editor



The character who said there're two sides to every story obviously never tried to stuff the AMA into five pages; there is seemingly no end to the many facets of the American Motorcycle Association. Not that I don't know a few guys who can't sum the whole bit up in one quaint four-letter word, but this accomplishes nothing other than an admission of defeat and lack of sincere personal involvement on behalf of the protester.

Admittedly the feature on our National Governing Body, included in this issue, was one of the most difficult editorial efforts I have ever attempted, and it probably shows. Not that the facts weren't there; quite the contrary, they inundated the researcher, to the extent that it would require a book to do justice to the monumental assignment the managers of this body have inherited and agreed to fulfill.

For after analyzing the Association at greater length than ever before, it becomes obvious that the nut of the situation is its enormity. Kind of reminds me of Bonneville. To get the job done, you've got to pack so much gear that it becomes a question of being able to peak out in each intermediate cog just to be able to pick up the next one. If you can't pull the R's, you'll never be able to notch high. And that's how it is right now with the AMA machine. If ever, at any one time, their membership engine could get into full song, they'd wail so hard that the seemingly big problems of today would be lost in the dust of bygone memories, only to be supplanted, of course, by newer and greater ones. For this is the nature of the beast, the alchemy, the nitro that makes it boil.

To feed the fire of those who would make something of it, I readily admit to being a life member, having participated as clubmember, off-road competitor and sponsor through the Smith, Kuchler, Berry and now March regimes. Each one, of course, has left room for improvement but it must be said that at no time have I seen a more progressive or active crew at the helm. However you may see them, these boys have the wick turned up as far as it will go. Here's a clue:

As you might guess, much of the information included in our article was gleaned through an interview with Russ March, Gene Wirwahn, Mike Hinshaw and Insurance Administrator Virgil Craycraft. Hitting my office about 10 a.m., on the heels of a previous earlier appointment, the AMA gang, complete with actual insurance applications and back-up statistics to cover almost every topic of discussion, filled cassette after cassette of tape recorder, interrupted only by the fastest pencil in the west. As the hours rolled by, including straight up in the process, I finally broke in with my favorite old saying, "Where would you like to go for lunch?" A fast look of surprise was exchanged between the easterners before March confided, "I'd just as soon work on through if you don't mind. Seldom eat lunch. Don't really need it anyway."

Well, I'll tell ya, that's about as close as this lifer ever came to cashing in his membership in the AMA, for not to recognize Noon borders on being sacrilegious when you've got a beautiful plump body like mine—and March certainly had that. Nevertheless we ground on into the afternoon, at which time the session came to an abrupt halt with the snapping shut of satchels and hasty farewells as the four horsemen swept out of the office in time for a fast bite and get-ready for their next appointment. "See you down at the District Thirty-seven Sports Committee tonight" was the last I heard.

Sure enough, a couple of hours later, there they were on stage at the head of that impressive body, fielding questions that only this group knows how to throw. Before it was over, midnight was near and March and his men rushed off to their final three-hour round with the California Motorcycle Industry Council on land use. They had logged a good 21 hours under heavy fire, still with the surprising freshness and lack of fatigue that marks a European moto-crosser after a one-hour moto. I got the idea that 21-hour days were routine to them and that I didn't want any part of their job. And that I had to respect their dedication because I didn't know anybody else who was charging that hard, that long, that often for the motorcyclist. It's amazing how they endure such a succession of one-day-and-night stands. How they must reflect, when that little bird chirps Come Fly With Me, "Yeh, right into the next inferno!"

Bob Greene

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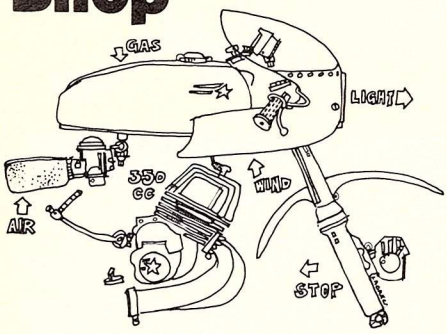
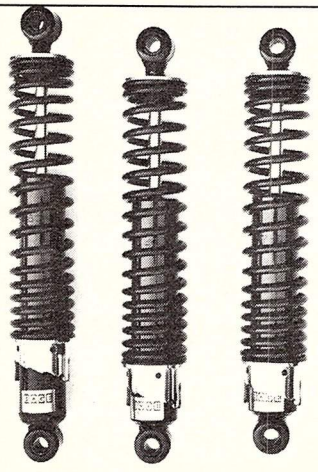
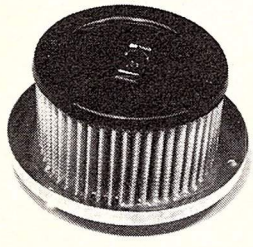
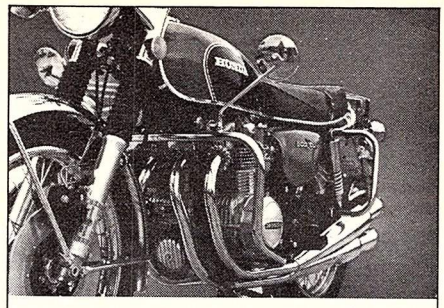




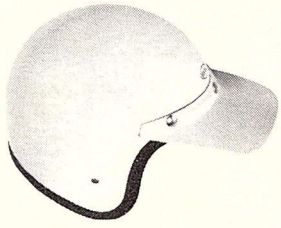
Boge manufactures some of the finest shock absorbers in the world. They are used as stock equipment on VWs, Porches and Mercedes, among others. The secret of the Boge shock is its super double-damping inner valve which allows a smooth, soft "return." Now Boge makes shocks for cycles, they retail for $36.60 per pair and have full five-position adjustments for various rider and weight loads. Also, they come equipped with 60- to 90-pound progressively wound springs. Send check to: Dimex-Moto Imports, Dept. MC, P.O. Box 4055, Fullerton, Calif. 92631



K & N offers a new Suzuki TS90 performance air filter replacement unit. Complete and ready to mount, it is easily installed in minutes in original factory case. The K & N element utilizes the principle of suspended oil. A curtain of oil catches dust and dirt particles, allowing air to flow through freely. Result? Engine performs better in excessive dusty and racing conditions. K & N filters are completely washable and long lasting. Order part number SU40 and enclose $8.95 to: K & N Engineering, Dept. MC, P.O. Box 1329, Riverside, Calif. 92501

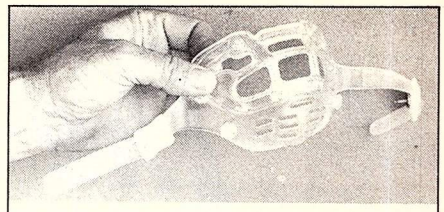


Cycle Specialties has new bolt-on bars to protect your bike and you! "Dammit" Bars (so named 'cause that's what you say when you take a spill) bolt-on the front of your cycle and are available with or without the mirror mounts. Behind Bars bolt onto the rear of your bike to guard your taillights and finish. Both front and rear bars can be ordered to fit the Honda 750, 500, 350 (fours) and 450; the Yamaha 650 and 750; and the Kawasaki 750, 900—and Suzuki 750. Available from: Cycle Specialties, Inc., Dept. MC, 2065 12th St., Sarasota, Florida 33577

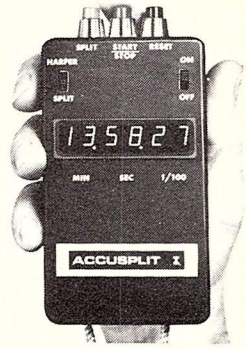


Bell announces a new Duckbill Visor that attaches to their Bell Star helmet and provides a good combination for no-glare riding and safety. The Duckbill is extra large to allow maximum shading and cuts down on the dangerous "glare" condition caused by dirt on lenses. It is easily trimmed to an individual rider's requirements. Suggested trim lines appear on the underside of each Duckbill Visor. List price of this novel item is $1.50 and it is available at your local cycle shop. Or write: Bell Helmets, Dept. MC, 2850 East 29th St., Long Beach, Calif. 90806

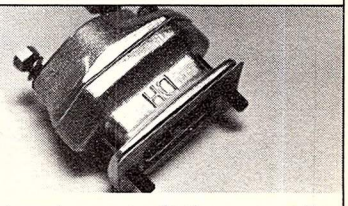
Routt's Cycle Center offers a Trap Door for Sportster owners. Routt's Trap Door replaces the standard cast transmission trap door. They claim it to be the strongest trap door available at the lowest price. Machined from T6-7075 billet, all bearing bores are precision honed to size. It's a goodie for all you high performance Sportster owners out there. For more info on this and other Harley items, drop a line to: Routt's Cycle Center, Dept. MC, 4633 42nd Place, Hyattsville, Md. 20781



Jim Davis retails an ultra moto-cross mouth protector. It is made of high impact polycarbonate plastic and contains an inner liner of soft dental vinyl. There are no metal snaps or rivets to cut your face, nor are there any corrosion problems. It is completely washable and does not restrict breathing. Also, this unique guard is contoured to your face and is flush fitting so impact is distributed evenly over the entire cheekbone area. Retail price is $4.50; mail to: Jim Davis, Dept. MC, P.O. Box 1002, Burbank, Calif. 91505

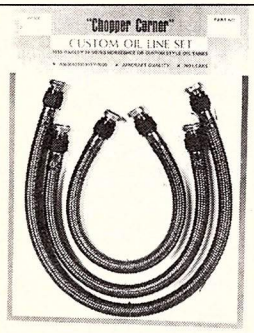


Continental Accessories introduces the new Accusplit One. This electronic digital stopwatch provides an immediate numerical readout for all timing applications, such as motor racing, rallying, sporting events, science, industry and any other situation when the precise measurement of time in minutes, seconds, and 1/100ths of a second is essential. Four type-C alkaline batteries power the unit and give a practical in-use average in excess of 100 hours. Retail is $199.50. From: Continental Accessories, Dept. MC, 1727 Wilshire Boulevard, Santa Monica, Calif. 90403

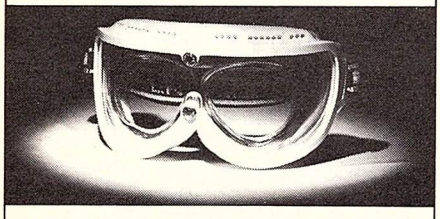


DH Enterprises manufactures a neat reed valve assembly that has been designed to accept a 27 to 32mm Amal bolt-on carburetor. Note the studs and the offset of the carburetor mounting flange. The small carburetor coupled to the large reed allows excellent throttle response at low speed, yet allows efficient breathing for top-end power. The stock air cleaner can be retained and used. The unit shown is for 175 to 350cc Bultacos for trials use. Send $31.50 to: DH Enterprises, Dept. MC, 1605 Lynngrove Drive, Manhattan Beach, Calif. 90266

Penton releases new Hi-Point MX pants that feature high quality leather, padded knees, padded thighs, a zippered front with side zippered legs, front belt for easy adjustment and 100% interior lining. For the sporty rider, these leather pants come in black or gold with matching stars and stripes along the side of each leg. Sizes are small, medium and large; they are available from any Penton or Hi-Point Accessory Dealer. Or write to: Penton Imports, Dept. MC, 1354 Colorado Ave., Lorain, Ohio 44052



Chopper Corner has new custom oil lines to fit all Harley-Davidson 74's with stock or horseshoe or custom style oil tank. Lines are braided steel aircraft hose with anodized fittings; three per kit. Available from stock at: Chopper Corner, Dept. MC, 1611 S. State St., South Holland, Illinois 60473



Super Seer Corp. announces availability of Model 203 prescription goggle which has a double lens design with insulated air space between lens to prevent fogging. In addition, the goggle frame has a patented airfoil which provides automatic ventilation, drawing warm air out of the goggle. Prescription should be obtained from the user's doctor and include Vertex and Pupilary Distance for normal single vision. Standard model sells for $37.50 postpaid. Specify clear, amber or smoke outer lens. From: Super Seer Corp., Dept. MC, P.O. Box 700, Evergreen, Colorado 80439

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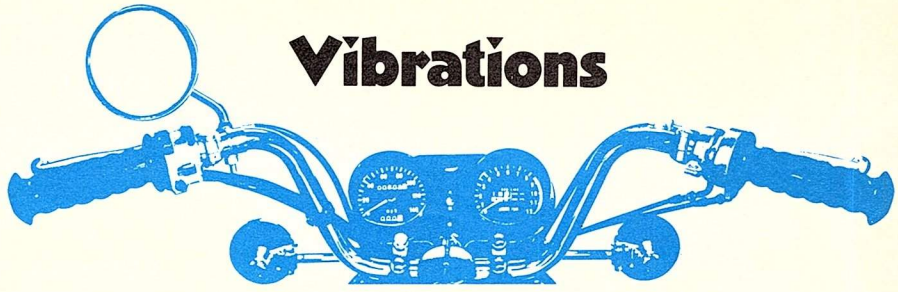

CYCLE ALARMS

. . . When the mercury switch type alarms were first made available, I thought they were really great and ran out and got one. My type uses the bike's battery as a power source and once the key is turned on any movement of the machine sets off the alarm, hopefully scaring away any would be rip-off artist.

Well, they don't work as good as you might think. Last week I parked by Honda on the sidestand, turned on the alarm and went to take in a double feature. When I returned the bike was seemingly intact, parked just where it had been several hours before. However, when I went to start it there was no juice.

After unsuccessfully searching for an electrical problem I found the cause. A gas station attendant from across the street appeared and told me that my bike had been buzzing for a long time and wanted to know what caused it. Apparently someone had moved the bike, innocently or otherwise, and when the alarm went off—so did he. It sat there for a couple of hours using up my battery. I guess nobody stopped, but even if they had, there was nothing they could do without the key. There's a message there for both the alarm maker and the I-don't-want-to-get-involved citizen.

John Barnard
Milwaukee, Wisconsin

YOU KNOW, YOU'RE (HALF) RIGHT

. . . Just a few remarks about some of the statements made by Bob Schneider in his letter appearing in the May Motorcyclist: I agree with what he has to say about mechanical simplicity, true horsepower and greater efficiency. But I cannot sit still while he compares a handmade, $3,000 de-tuned racing machine to a $1,600 touring bike!

I know Frank Reps fairly well. Last year I bought his Honda 500 Four. And I have also ridden his Seeley Condor, a truly outstanding machine. Bob, it is *almost* all you say it is.

Two last things that come to mind: there has never been, nor will there ever be, a 'less trouble-prone' English motorcycle. And the letter ends with "and for all practical purposes, just as comfortable and smooth at high speeds." Is he kidding?

Paul R. Halesworth
Los Angeles, Calif.

TRAIL BIKES BANNED IN OHIO!

. . . That's right. Except for one area, the Perry County Reclamation Area, motorcycles have been banned from all state lands.

When Act 214, requiring the registration of snowmobiles and all-purpose vehicles (trail bikes), was enacted by the Ohio Legislature in 1971, motorcyclists were assured that it would not affect their use of established trails and areas in state parks and forests. The Act has had the opposite effect, for the Department of Natural Resources has not opened any area to trail bikes but Perry and all other areas are closed. Officials of the DNR told the AMA and the Ohio Motorcycle Dealers Association, "Even though Act 214 required the DNR to develop areas for off-road motorcycling, finding a place to ride trail bikes was not the DNR's problem, it was the Ohio trail riders'."

AMA Legislative Analyst
Robert Rasor,
Westerville, Ohio.

CYCLERAMA RIP-OFF

. . . Cyclerama '73 at the Nassau Coliseum in Long Island, New York was the biggest fraud I have experienced in the sport of motorcycling. The "show" (?) was held in the basement of the Coliseum. It was small and strictly amateur. Manufacturers did not exhibit their '73 lines—some new bikes were shown by local dealers. The rest of the show was a display of choppers.

Then there was "death-defying" Evel Knievel who did more talking about how great he is than demonstrating his skill on a motorcycle. In fact, Evel did only one jump for the crowd which patiently waited an extra 30 minutes while he went through a little dressing-room act of arguing with the Coliseum management about when he should be paid. In order to keep the crowd occupied until the final single minute of action, a midget jumped his bike over 12 (toy!) trucks.

For a wasted afternoon, I recommend Cyclerama. The rip-off was $6 a head which seemed to shock everyone as they approached the ticket window—but for us and most others it was too late to leave.

Responsible motorcycle enthusiasts know the pleasures of biking. A show like this gives our sport a bad image.

Rick Lapidus
Teaneck, N.J.

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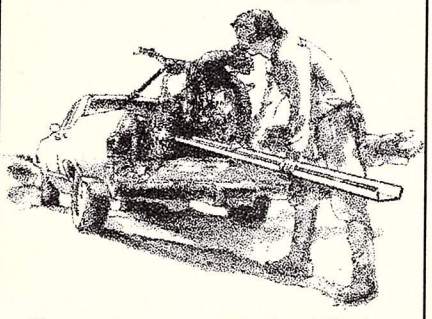

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stroke 900cc twin-cam Kawasaki before ordering one for his personal use. He will use it for extensive touring in Europe.

Dealers Honored

American Honda Motor Company recently honored eight of its dealerships with the highly prized Outstanding Dealer Service Award. Over 1,700 Honda motorcycle dealers were in contention for the award, and its receipt is deservedly coveted. Dealerships receiving the award were: Broadway Cycles, Inc., Miami, Florida; Ray's Honda, Delano, Calif.; Suburban Motors, Harrisonburg, Va.; Independence Honda, Independence, Mo.; Brainerd Honda, Brainerd, Minn.; Floyd's Honda Sales, Stanford, Ky.; K & L Honda Sales, Fort Wayne, Ind.; and Carr's Honda Center, Chicago.

For New Trail Riders

"Congratulations" is the title on a new tips to trail riders booklet published by the Motorcycle Industry Council, Inc. The 40-page illustrated booklet provides a great deal of valuable advice to beginning trail riders and is available on request from the Council's offices at 1001 Connecticut Avenue, N.W., Washington, D.C. 20036.

"Congratulations" is directed at novice riders of any age and leans heavily on the theme of being a good neighbor in the outdoor situation. This theme shows up in one of the first pages where the author, Robert Hicks, notes, "Long before we came along, people enjoyed the back country, the woods, and the trails, on foot or on horseback. They've come to regard the land as theirs alone, and those of us who now intrude on our machines are not very welcome."

The Council's philosophy in this highly entertaining as well as informative booklet is found on the first page where the statement is made, "Thousands of informed, considerate trail riders can find places to ride, so be considerate and informed, we'll all have a better time."

New Home For Hunt

Joe Hunt Magnetos has moved to a new location where a modern 11,000 square foot building will provide the necessary space for expansion.

Since Hunt took the plunge into the fast-growing motorcycle field, after specializing in race car magnetos for over 25 years, his business has grown so that a larger facility became imperative in order to accommodate his two lines of products.

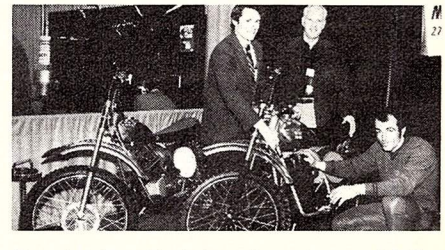
Accelerated production on already-developed products for cars and bikes, faster processing of inquiries, and stepped-up shipping of orders are now the order of the day at Joe Hunt Magnetos, 1724 Crenshaw Blvd., Torrance, California 90501.

Indian Motorcycle Plant

The Indian Motorcycle Company opened its plant in Kaosiung, Nantze export processing zone recently. It has the largest assembly line outside of Japan. The plant consists of approximately 100,000 square feet, and has a capacity to produce 18,000 units per month in three shifts, for a total of 226,000 units per year. The company, Indian of Taiwan, is a wholly owned subsidiary of Indian of U.S.A.

More Moto-crossers

Mitsubishi, the huge Japan based complex with world-wide activities, entered the U.S.A. motorcycle market at the Cincinnati 1973 Motorcycle & Accessory Trade Show displaying a sleek line of moto-crossers named Tyran. A spokesman for Mitsubishi Int'l



Corp's New York headquarters said the firm will combine the finest overseas craftsmanship (the Tyrans are U.K. made) with real "dealer-pleasing" sales policies.

The line will include 125, 250 and 405cc models, all of them being two-strokes. ●

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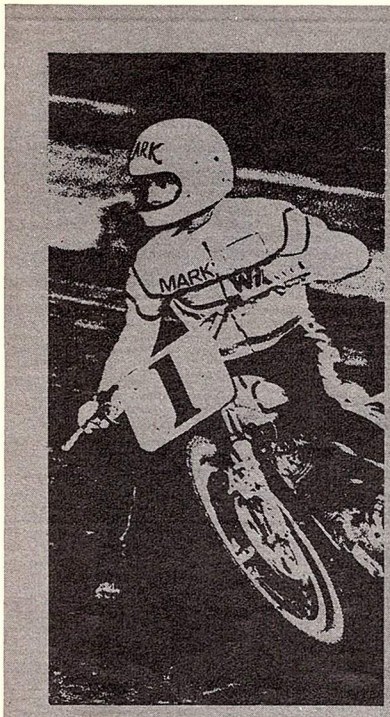

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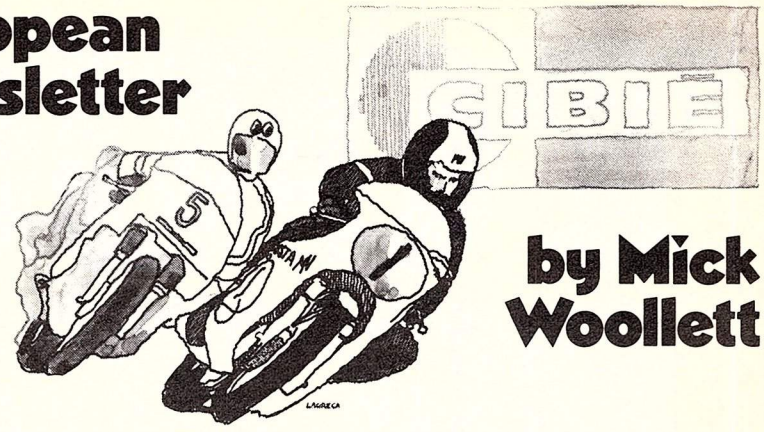


by Mick Woollett

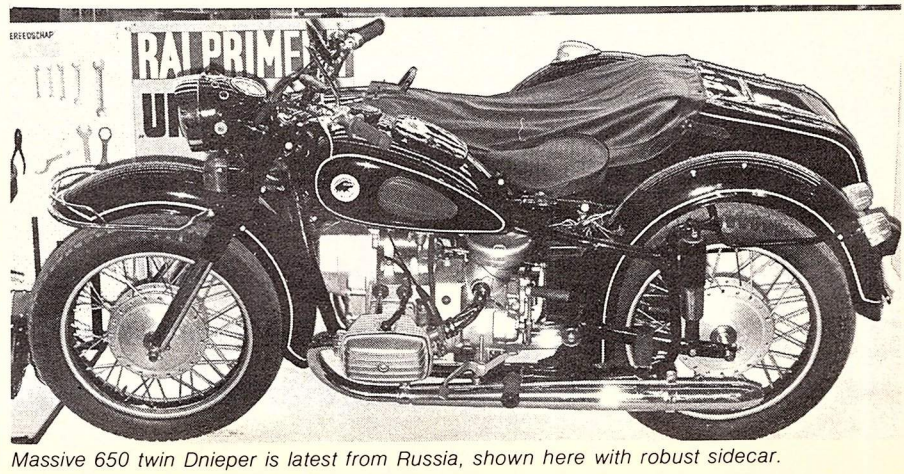
Nasty news from the British Isles. Crash helmets will be compulsory wear from June 1 in England, Wales, Scotland and Northern Ireland. And anyone caught not wearing one will be liable for a fine up to $125. For a long time now enthusiasts have been fighting against possible helmet legislation—not so much because they don't agree that helmets should be worn but because they feel that the decision should be left to the individual. Now the ax has fallen. A few stalwarts are fighting on but most of us have resigned ourselves to buckling on our helmets whenever we go out on a motorcycle—which can be pretty annoying if you just want to potter around on a trials machine.

On the brighter side, motorcycle sales are increasing all over Europe. On the weekend I visited Holland for the Amsterdam Show and official figures released during my stay showed that sales in Holland during 1972 had rocketed by over 50% compared with the previous year. Top of the Dutch sales chart for 1972 were Suzuki closely tailed by Honda. But the big surprise was that BMW, selling only high-priced, big-capacity sports mounts, were third and in sheer value of bikes sold must have topped their Japanese rivals. Yamaha took fourth place followed by Jawa, Kawasaki, Laverda and Triumph.

In tenth place came the Russian 650cc Ural twin. This bike was unknown in Western Europe just two years ago but it is selling so well now that a new model was shown at Amsterdam. Called the Dnieper, it is very similar to the Ural and both are obviously inspired by the big flat-twin BMW and Zundapp machines used by the German army in World War II. However the importer told me that the Dnieper is made by another factory and that there are a number of differences between the two machines. For a start the Dnieper has car-type plain big-end bearings, more generously finned barrels and heads, a higher compression ratio and the gearbox is fitted with a reverse gear—handy for maneuvering when the massive Russian sidecar is fitted!

Also the Dnieper is very much lighter than the Ural. The paint and general finish can best be described as agricultural (the rubber on the kick-starter is obviously cut from a length of rubber hose-pipe) but the Russian twins are robust and cheap. "We tried to make them look modern by fitting a big BMW-style tank and things like that but we found that our buyers want them just as they are," said the importer. Talking about service he continued: "We strip and rebuild the cylinders and heads and replace the original piston rings with

(Story continued on page 12)



Massive 650 twin Dnieper is latest from Russia, shown here with robust sidecar.

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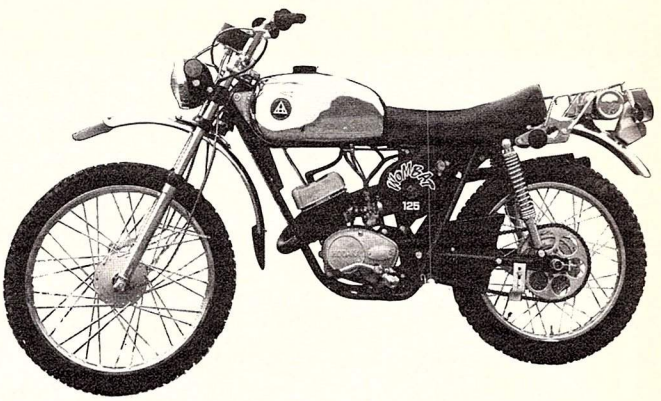
Hodaka is an honest motorcycle. It's an Enduro bike because of its features, not just because we call it one. There are European lightweight Enduros for hundreds of dollars more and Japanese makes for a few dollars less. Compare their equipment and features carefully.

Let's get down to geometry. A long 52.5 inch wheelbase, 30.75 inch seat height and a crankshaft at only 14.75 inches above ground gives you a low center of gravity and far better handling and balance. Hodaka's folding, serrated steel footpegs adjust so you don't have to peek over your knees or feel like you're being stretched on some medieval rack.

Hodaka has what it takes to be what's most fun. And we think our no-compromise attitude in building you a Hodaka will result in a no-compromise attitude on your part in making it your choice. For the address of your nearest Hodaka dealer, Canadian readers should write to Gemini Ind., Ltd., 2525 Stephens St., Vancouver, B.C. Australian inquiries can be set to Minilya Pty., Ltd., P.O. Box 209, S. Melbourne, Australia 3205.



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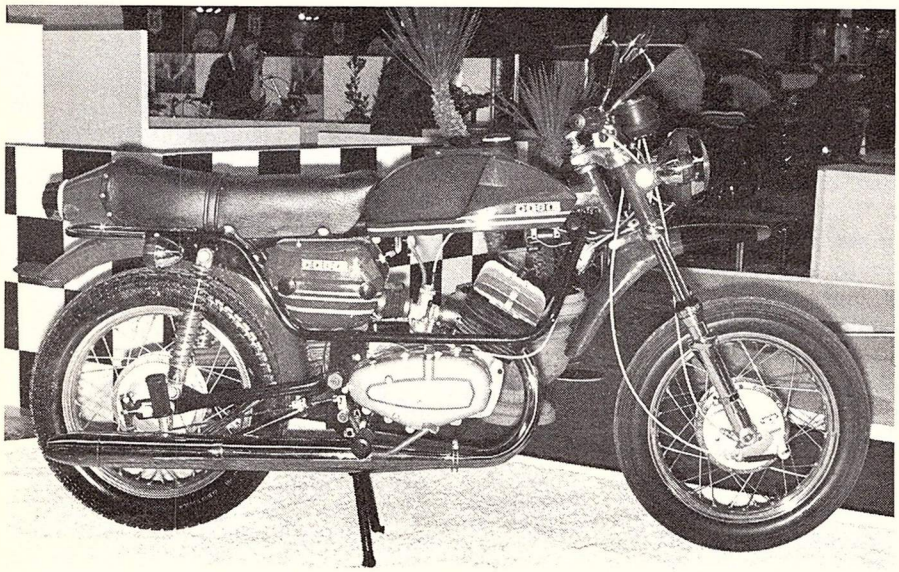
NEWSLETTER.....*continued from page 10*

British ones before we sell a bike. This is an extensive check and it takes a good mechanic 15 hours of work. But it is worth it. We now have very little trouble and guarantee the machine for a year."

From the other side of Europe, from Portugal, came the completely new 125cc from Casal. This is the first over-50cc bike to be produced by this factory which has built up a thriving market for its mopeds in Europe during the past two years. The engine is orthodox enough, a Zundapp-inspired single cylinder two-stroke with a five-speed gearbox, but the frame is unusual with the twin down-tubes running back on each side of the engine instead of under it. The engine-gearbox unit is suspended at its point of balance from a crossmember welded between the tubes just behind the cylinder barrel.

Sporting little bike from Portugal, the new 125 Casal. Note unusual frame.



With Ceriani forks, a rev counter, dual seat with styled taillight, the Casal is very much a sporting little machine and I hear that the Portuguese factory will introduce a 175cc version later this year. They also have 250, 350 and 500cc models on the drawing board.

Before leaving Holland it's worth noting that over two million 50cc mopeds (the European name for a lightweight machine with pedals) are registered. That is one moped for every six people in the country and if you translate that into American terms it would mean that you would need something like 35,000,000 mopeds in the States to bring you up to the same ratio—enough to make a moped sales manager flip!

Among the sporting personalities spotted at the Show were 250cc World Champion Jarno Saarinen and Swiss Bruno Kneubuhler, the road racing find of the 1972 season. Saarinen was playing it cool about Yamaha's plans for the 500cc class. The factory are still keeping a security clamp on their new water-cooled four-cylinder racer and the Flying

Finnish World Champion Jarno Saarinen.

Finn preferred not to comment except to say: "I hope Yamaha will race in the 500cc class because I think this is an easy class—only Giacomo Agostini and the MV Agusta to beat."

Good news of Kneubuhler is that he will be racing Harley-Davidsons for the factory's Italian subsidiary this summer. He is to ride the air-cooled 250 and 350cc twins raced so successfully by Renzo Pasolini in the world championships last year. Then Pasolini finished second to Saarinen (Yamaha) in the 250cc class and third in the 350cc, beaten by Agostini (MV Agusta) and Saarinen (Yamaha). Now Harley-Davidson are building him water-cooled versions for the 1973 races—which leaves the air-cooled machines for Kneubuhler.

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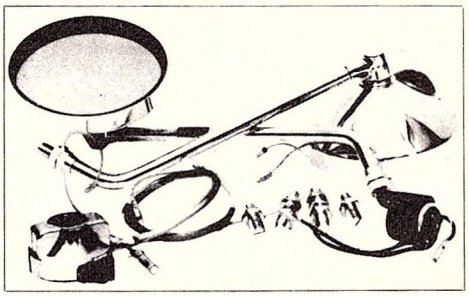

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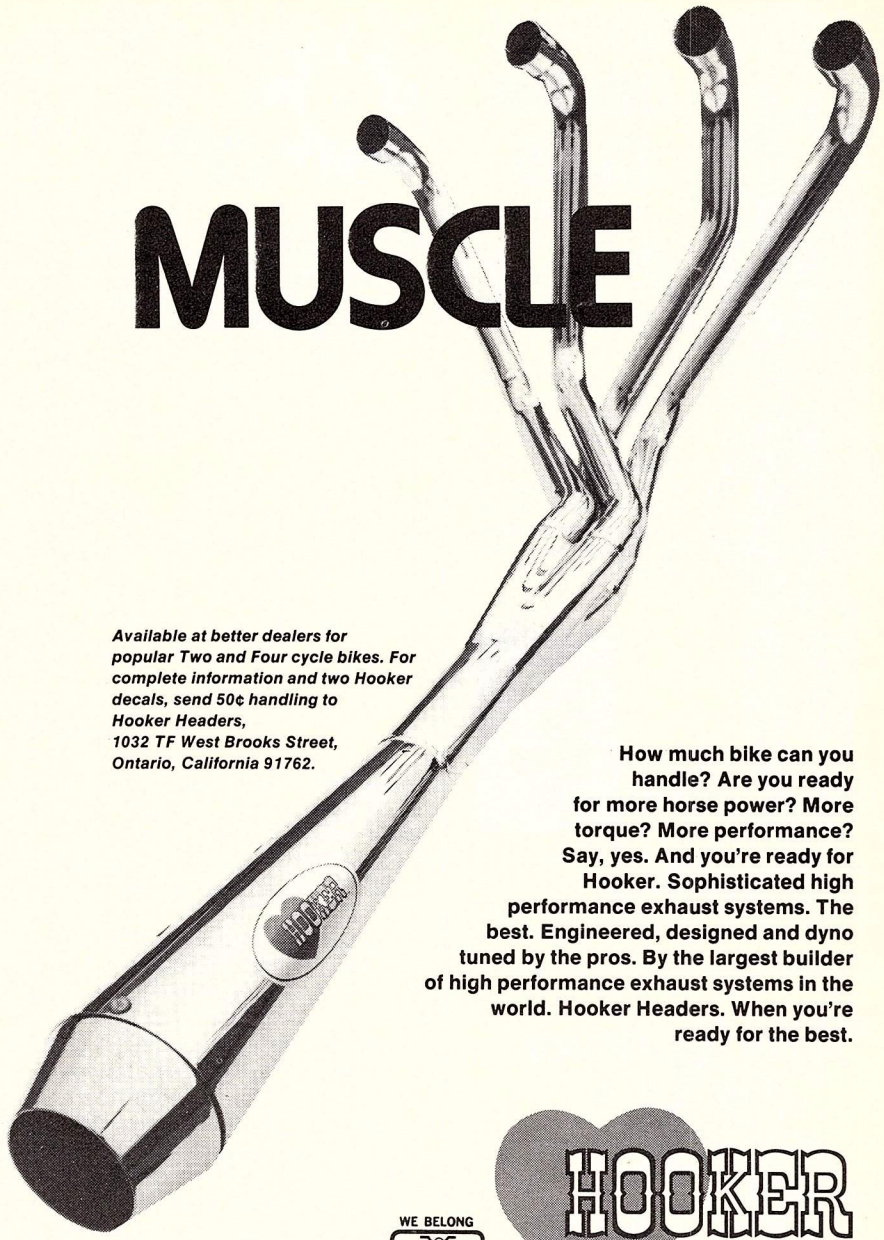
After his successful trip to South Africa where he won their major international race of the year, the South African TT, Mick Grant has been very much in the news. Out in South Africa he was so impressed by the speed of a factory vee-twin 750cc Ducati raced by Errol James that on his way home he called in on the Italian factory. Outcome of the visit is that Grant is to race a works Ducati at the big Formula 750 race at Imola, the first round of the FIM's new international Formula 750 championship which includes the race at Ontario. Grant was no sooner back home than Norton telephoned and asked him to race for them in the Isle of Man TT. He accepted, despite the fact that he had been pushed out of the Norton team at the end of last year when they cut the strength from three to two riders.

Reason for the vacancy is that John Cooper is one of a growing band of stars who prefers not to race in the Isle of Man. Cooper considers the course to be too dangerous by present day standards. No sooner was that deal fixed than Grant heard from a dealer friend in Boston that a new water-cooled 350cc Yamaha that he had ordered had arrived. Determined to be the first British rider to get a new Yamaha, Grant soon had his flight to Boston fixed and he was packing his bags when Colin Seeley telephoned him to say that Kawasaki had agreed to supply him with engines —and would Grant ride the Seeley-Kawasaki 750cc racers in British and European events? Grant accepted, subject to riding the Ducati at Imola, and within the space of a few days he had fixed up four machines—two factory rides, one semi-factory, plus his own Yamaha.

While road racers are anxiously waiting for the European season to open in a few days, the moto-cross men have already had a couple of warming-up outings. Most important of these was at Lummen in Belgium. In bitterly cold and muddy conditions, 500cc World Champion Roger De Coster ruled supreme but Finn Kalevi Vehkonen on a 380cc Montesa pushed him hard until the Spanish two-stroke blew a gasket. Sweden's Bengt Aberg (Husqvarna) took second place ahead of West German Willi Bauer (Maico). Making his first European appearance since joining Bultaco, American Jim Pomeroy took fifth place in his qualifying race but he did not figure in the final. World 250cc Champion Joel Robert did not get that far. He did three laps in his heat then packed his works Suzuki onto his trailer and drove away, apparently unhappy at the muddy conditions. Oh to be champ. •



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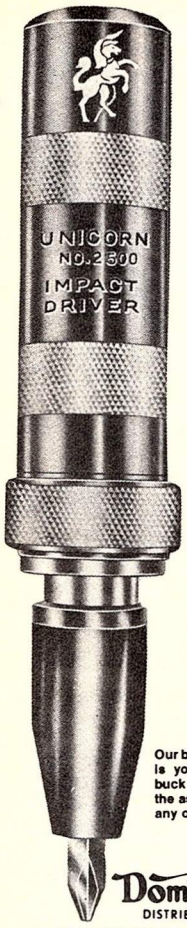

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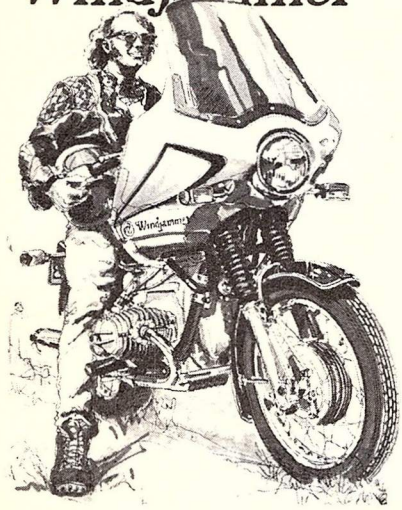

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Have anything to say? We're happy to hear it. Send to: On The Line, Motorcyclist Magazine, 8490 Sunset Blvd. Los Angeles 90069.

ANOTHER INDIAN INCIDENT?

The article on the 1973 125cc Enduros, March issue, was very informative, but Mr. Ocheltree's article eliminated one bike that I think should have been included. The "Indian" 125cc Enduro.

The 70cc Indian Mini is making quite a name for itself and I hear tell they (the manufacturer) will challenge anything in its class.

So, why did he leave the Indian 125cc Enduro out of the article? Maybe, he should push the (self-destruct) button.

Mrs. W. T. Holt
Encino, California

Indian Enduros were still on the water at time of test, on way over from place of native oriental birth. We thought about doing a shipboard test but the Captain nixed it.—Ed.

FUNNY YOU SHOULD ASK

I have recently moved to the Marina Del Rey, California area from Chicago and I am an avid fan of dirt riding.

Since my business contacts, generally speaking, are not motocycle enthusiasts, I would appreciate any suggestions you have regarding local clubs or organizations that I could join that are involved in dirt bike activities.

For background information I am an insurance broker, 30 years old, and single, therefore, I'm not really interested in "family activity" type groups.

I think your magazine is by far tops in its field and have enjoyed your column since its inception.

Bruce Dierking
Marina Del Rey, Calif.

In anticipation of your letter, we've done several pages on the subject—the AMA story—in this issue. Under the separate listing of the Field Staff in that article, you will find the Regional Director of your area who will be happy to line you up with the club most compatible to your needs.—Ed.

WHY YOU GOTTA BE SO RIGHT?

This letter is in reference to an article printed in your *Motorcyclist Magazine,* February issue, on page 24. The article's title is *How to Ride Dirt.*

In the article you described various helpful techniques on how to position yourself on a bike when riding dirt. In the article you also said that when approaching a hill, if the rider were to stand up on the pegs this would lower "the center of gravity" of the motorcycle and thus give the rider more control and enable him to maneuver the bike better.

It is this section of the article that I don't agree with. When the rider gets up on the pegs, this raises the "center of gravity"! What getting up on the pegs does for the rider is distribute his weight more evenly on the bike's suspension so that he does not feel the bumps as much as when he is sitting on the seat, thus enabling him to have more control and maneuver the bike better.

The center of gravity is defined as that point at which the entire weight of the object can be considered to be concentrated. An object will balance if hung from, or supported under its "center of gravity".

Getting up on the pegs gives the rider certain advantages when riding but does not lower the center of gravity, this raises the center of gravity.

Bruce Babes
Torrington, Conn.

Don't think you didn't raise a little action around the office here, Bruce, but after the bodies were all carried away, those left standing agreed with you. By the way, did you ever consider doing a little direct mail tutoring on the side?—Ed.

NHRA BIKE POLICY FOR 1973

The plans for 1973 of the National Hot Rod Association regarding the running of motorcycles will be the same as 1972, with even a possibility of expansion throughout.

At this time, there will be Motorcycle Record Meets in 1973, with the first being scheduled for June 16 and 17. This will be held at the Beech Bend International Raceway in Bowling Green, Kentucky. This facility has been holding Motorcycle meets for three years now and was where Boris Murray set the existing A/FB records of 8.87 and 174.75 in June of 1971.

Also NHRA will again invite some of the best bikes to the Nationals and also the Supernationals. There were 16 invitations sent out for the Nationals where we had 10 actually run in competition. At the Supernationals 18 were scheduled to attend and 17 made it for a very good show.

As I said earlier, I feel personally that NHRA will be expanding the Motorcycle program for 1973, rather than cutting back on any operation.

In hopes that this might throw a little light on the subject from my standpoint.

W.E. Dismuke
National Tech Director, NHRA
North Hollywood, Calif.

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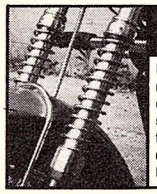

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THE MOVEMENT'S GROWING!

As chairman of the Jersey Motorcycle Association and a contributor to the Charlie Simon Case, I would like to thank you for what you have done. Charlie sent me a copy of the article you did on him and some comments about *Motorcyclist* which were very encouraging. So I went out and bought my first issue, the March copy, which happened to have your great editorial.

Your editorial was right on target, and I wonder why very few magazines had the guts to really take a stand and say something. Maybe they were afraid to lose some helmet ads.

I have just formed the JMA and hope that it will become informative and be a watchdog on the Jersey scene. I hope that in a small way we can be helpful on the National scene too. We are sending out flyers to our members, hoping to get some money for Charlie's losses. It's a real shame that one man tried to ignite a fire in today's cyclists and failed, not through his fault but our fault. The figures are appalling for the donations and I am ashamed of the Jersey effort except for Mike Bondy of Hap Jones in Norwood, N.J. Mike is a story in himself and a defender of the cyclists' rights.

If you could send me or print the address of the FAIR, I would appreciate it, as I want to get in touch with them.

Lastly, I'd like to thank you for your pledge to help organizations. Though some are phonies, most work with limited funds and are helpful to their members. ABATE helped one member start the JMA.

Gary Gredell
Chairman

FAIR—Friends Against Irresponsible Regulations—can be reached by writing P.O. Box 854, Wichita, Kansas 67201.—Ed.

HANG IN THERE CHARLIE

The letter by Mr. Thomas Sheridan in the March edition of your magazine has prompted me to write. Please, Mr. Sheridan, do as the editor suggests and WAKE UP! It makes me sick to think that Mr. Charlie Simon is going in debt, deeply in debt, to fight for the rights of people like you. We don't deserve it, Mr. Simon, let it happen. Only then will asinine people like the concerned citizen, Mr. Sheridan, realize just how hard the motorcycle world has been kicked in the teeth.

May I also take this moment to say that I truly enjoy your magazine and want to sincerely thank you for bringing issues such as Charlie Simon's plight to my attention. You may be disheartened, Mr. Simon, but people such as yourself will always have allies.

T. Butler

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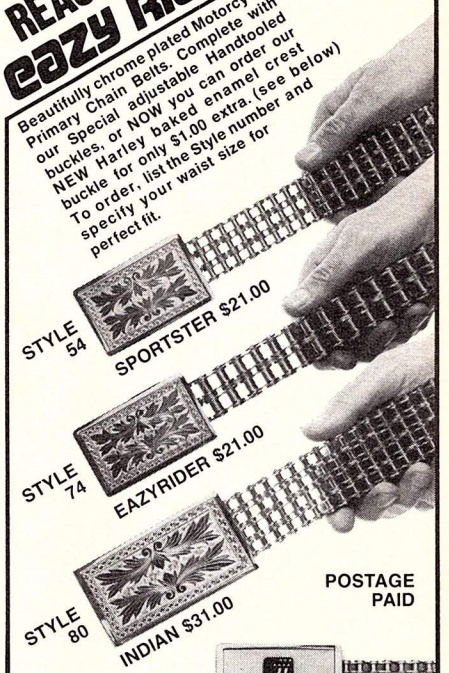

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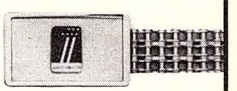

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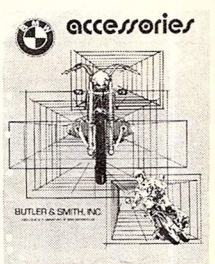

Butler & Smith's new BMW accessories catalog features Allen wrenches, ashtrays, cigarette lighters, fairings, grease guns, jackets, locking gas caps, luggage carriers, luggage racks, mirrors, motorcycle covers, mud flaps, pillion seats, safety bars, seats, and windshields, among other goodies — only for the touring BMWs. For a copy, write Butler & Smith, Dept. MC, Walnut St. & Hudson Ave., Norwood, N.J. 97648

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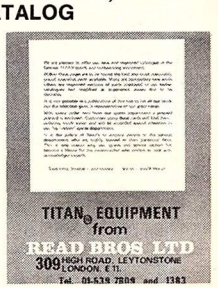

Read Bros. Ltd. are pleased to offer their new and improved catalog of the famous Titan sports and customizing equipment. Within its pages are to be found specialists parts galore for Kawasaki, Honda, Suzuki, Triumph, BMW, etc; all parts are oriented to the gung-ho cafe racer enthusiast. For copy write: Competition Cycle Centre, 1421 N. Federal Highway, Dania, Florida

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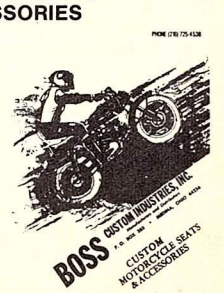

Boss' new 30-page catalog covers a complete line of custom-built motorcycle seats — with included guide for different size quilting, rolled and pleated patterns. The sample swatches of all materials are shown. The catalog also covers a line of sissy bars, frames, handlebars, lights, wire and hose. For a free catalog, write: Boss Custom Industries, Inc., Dept. MC, P.O. Box 385, Medina, Ohio 44256

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Competition Scene

Kawasaki MX Team

Famous Swedish moto-cross rider and the developer of Kawasaki's new and highly competitive MX machines, Ole Pettersson, is joined by 23-year-old fellow countryman Torleif Hansen.

Together they make up the Kawasaki Team for the marque's first season in big time international MX competition. They expect to run in all nine World Championship events this year.

Kawasaki Shatters 24-Hour World Record

A total of 47 World and Plus 46 Other Marks American motorcycle records, including the World 24-hour speed and endurance mark, were shattered at Daytona International Speedway during an effort sponsored by Kawasaki Motor Corp.

Using a production model Z-1 Kawasaki 903cc motorcycle, a team of four riders covered 2,631.402 miles at an average speed of 109.641 miles per hour for 24 hours to break the previous record.

Don Woods, AMA Director of Competition, who also served as the official observer for the worldwide sanctioning organization, the Federation Internationale Motocycliste, said the 109.641 figure was subject to a final audit of lap times, but that he did not expect a variation of more than one-half mile in the average speed.

The new mark eclipsed the previous record of 2,172 miles run at an average speed of 90.511 miles per hour, set by Suzuki Motors in 1968.

Other records set included an American closed-circuit, one-lap record of 160.288 miles per hour, reported Woods. The closed-circuit record was set by Yvon DuHamel, using a slightly modified Z-1 motorcycle, he added.

AMA Joins AMDRA

After several meetings between the American Motorcycle Association's Racing Director, Don Woods, and AMDRA's National Events Director, Roy Strawn, the two organizations have come to a working agreement. The AMA, as a service organization, wishes to assist the American Motorcycle Drag Racing Association in the growth of its drag racing program. The country's largest body of motorcycle enthusiasts, the American Motorcycle Association's present membership rolls are in excess of 200,000. AMDRA will not be absorbed by the AMA, nor will it receive financial assistance from the Ohio-based organization, but drag racers will now have rider and racer insurance, among many other AMA benefits.

The entire rules-making and operating structure of AMDRA will remain separate and self-supporting and will receive assistance from AMA in many other directions. The staff of AMDRA feels that this season's program and the affiliation with AMA will greatly enhance drag racing as a major competitive motorcycle sport.

The Start of Something Big

Sunday, June 24th, is a day that will go down in history as THE day that a World Championship event came to the USA. For the first time in the history of motorcycle racing, riders from all parts of the world will compete for World Championship points in the Hang Ten Grand Prix at Carlsbad, California.

This prestigous event, the sixth in the championship series, is squeezed in between the Czechoslovakian and German GP's and will attract all the top riders in the world. It will have the atmosphere and pageantry of all International events. It is something we've waited for for a long time and trust that motorcyclists from all over the country will support it.

International Field Expected For 1973 Trans-AMA Series

More than $200,000 in total purse and contingency offerings will be up for grabs this fall when the 1973 edition of the American Motorcycle Association Trans-AMA International Moto-Cross series gets underway with a $15,000 event at Loudon, New Hampshire.

The 11-event series will span the nation, matching the best American and European moto-cross racers in head-to-head competition aboard open class machinery. Already, top riders from more than six European countries have requested entries for the big-money campaign.

Sweden's Ake Jonsson owned last year's series, posting an unprecedented nine straight wins in capturing the international title, but impressive performances by a number of U.S. riders indicate that the Americans will be very much in the running for this year's Trans-AMA crown.

Following is the schedule and purse totals for the 1973 series.

September 23	Loudon, New Hampshire	$15,000
September 28	Philadelphia, Pennsylvania	$15,000
October 7	Lexington, Ohio	$12,000
October 14	Washington, Indiana	$12,000
October 21	Atlanta, Georgia	$12,000
October 28	Orlando, Florida	$12,000
November 4	Houston, Texas	$14,000
November 11	Phoenix, Arizona	$12,000
November 18	Puyallup, Washington	$14,000
November 25	Livermore, California	$14,000
December 2	Saddleback Park, California	$18,000

Pocono Appoints Von Schonfeld Director Of Motorcycle Racing

Dr. Joseph R. Mattioli, Chairman of the Board of Directors of Pocono International Raceway has announced the appointment of Walter K. von Schonfeld to the Advisory Board. von Schonfeld's post will be Director of Motorcycle Competition at the huge 1000-acre multi-purpose motor racing complex. von Schonfeld, Vice President of Kensington Products Corporation, has an extensive motorcycle and motor racing background and is well known in the motorcycle and motorsports fraternity. Mattioli said in making the announcement, "We at Pocono feel fortunate to have a man of Mr. von Schonfeld's ability, interest and background associated with our motorcycle endeavors and are confident that through this association Pocono will become the center for motorcycle racing in the East." Mattioli also pointed out that von Schonfeld's appointment was sparked by Pocono's involvement in the 1973 AMA National Road Racing and Motocross Nationals set at Pocono August 16, 17, 18, 19, billed as the KONI/POCONO AMA National Jamboree, Road Race and Motocross. The four-day cycle extravaganza promises to appeal to members of every facet of the two wheeled sport.

Bultaco quietly introduces the Alpina for '73

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The 217 pound Alpina is designed with geometrically perfect balance and steering, unequaled nimbleness and a smoothly powerful engine that produces maximum torque at a mere 4500 rpm. Yet, one writer has called it "as quiet as a field mouse with a bad cough."

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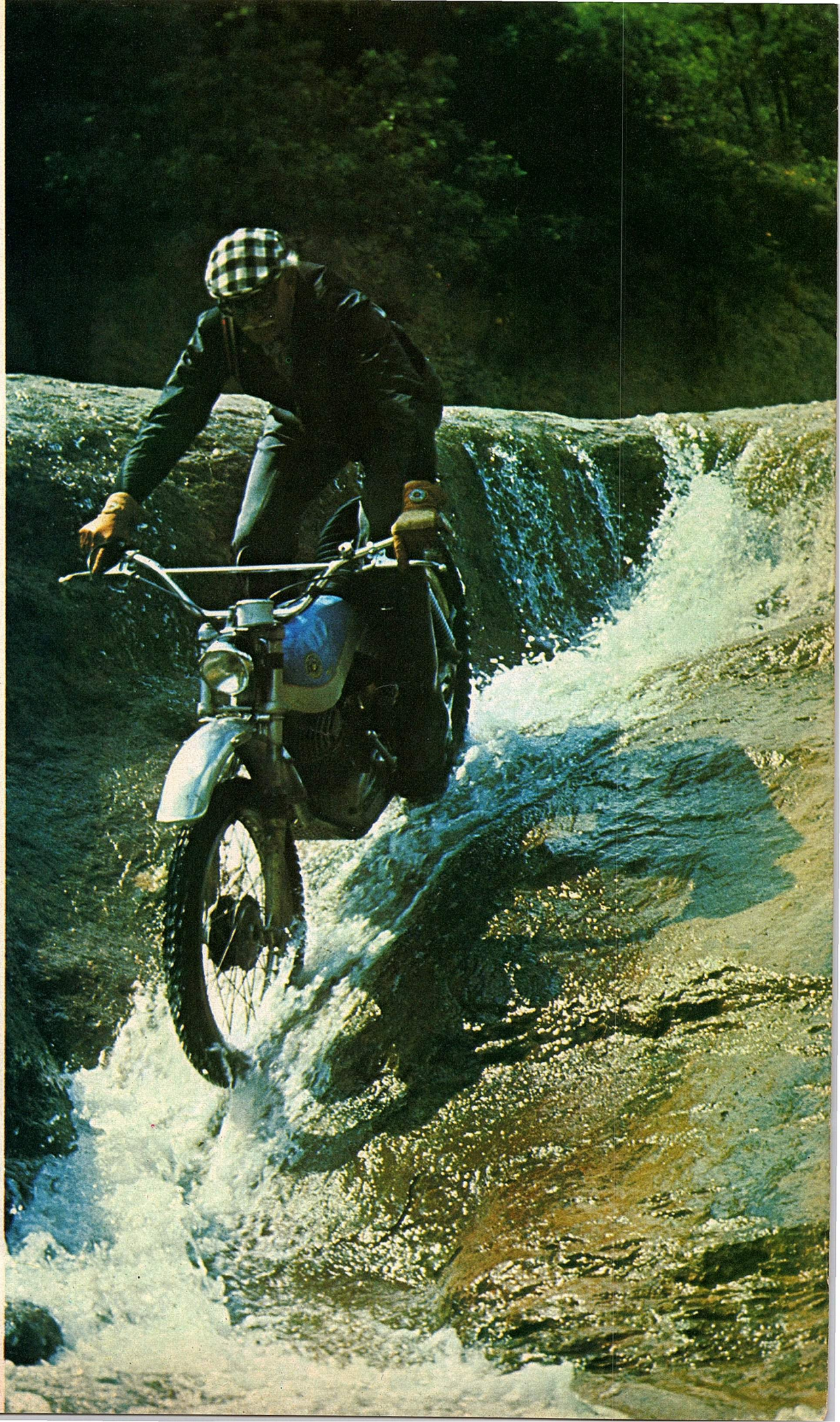

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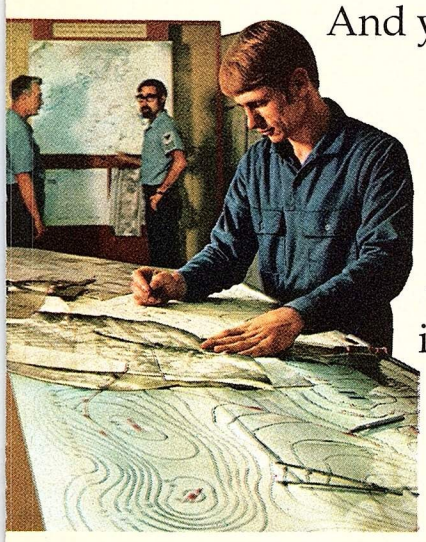
Today, young men and women still join the Navy to seek adventure in distant lands. But whether it's in Naval Aviation or any other branch of the Navy, when you join today, you get your chance to succeed.

1973: Join the Navy to get ahead.



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DAYTONA 1973

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THE ROAD RACE IS THE BIG DRAW, BUT THERE'S A WHOLE LOT MORE THAT MAKES DAYTONA "THE WEEK" IN MOTORCYCLING.

BY TONY MURPHY

It's hard to know just where to begin telling the story of the 1973 Daytona Speedweek. The race went out live over nationwide radio and many local papers carried the 200-mile National road race results strictly because of the sensationalism attached to a fiery crash picture of Mark Brelsford and Larry Darr. But Daytona was far more than sensationalism and a list of results. It was racing at its best, witnessed by the largest -62,000- crowd ever to attend a motorcycle race in the United States, big numbers for even a top NASCAR event at this track. Behind the scenes it was, as always, a different picture than that presented during the 2 hours, 2 minutes and 1.87 seconds racing time.

Speedweek was Yamaha week. The 250 and 350cc two-stroke twins from Hamamatsu had their act together and captured all the prestigious events of the week. They won the Novice, Junior and Expert road race events, the big bore moto-cross event and the Expert/Junior combined 250cc road race, an event they have dominated since 1965. This year's 200-miler dominance makes it a two-in-a-row affair, having filled out the first three places in both 1972 and 1973 against machines of twice their displacement.

Most unusual during the early days of practice was the fact that nobody seemed to be having major problems, either with going fast or keeping the equipment together. Last year's tire problems no longer existed, both Dunlop and Goodyear having special tires designed for the high speeds of Daytona and Talladega. Handling problems that had plagued the faster machines last year were reduced if not eliminated by the change in the Daytona course. At the end of the back straightaway, a new chicane reduced last year's 170 mph entry into the banking to a near crawl. Ironically, the change in course did not seem to affect either tire wear or the top speeds at the end of the start/finish straightaway. Several riders were clocked at over 160 per and the Dunlop people claim that the hard acceleration out of the slow chicane and into the high banking was shredding rubber as quickly as last year. The special design tires, however, were expected to go the distance.

The entry of three factory Hondas had taken the field by surprise, particularly when Steve McLaughlin started turning as-fast-as-anybody laps on the first day of practice. It took Kawasaki and Suzuki a day or more to better his lap times, and then by only a second or two. More disturbing, the Hondas of McLaughlin, Roger Reiman and Japanese rider Morio Sumiya were out for every practice session and never did anything but run fast. In tire testing alone, they logged some 350 miles on one machine without any attention whatsoever. With speed and reliability, and only one gas stop necessary, their chances of a win seemed better than in 1970, the year they had won.

Suzuki had the rocketships. Paul Smart, Geoff Perry and Ron Grant were really smoking, turning the fastest laps every day of practice. Last year's winner, Don Emde, was a little off their pace on the fourth Suzuki, but he was still faster than all but a few of the opposition. Riders reported that handling of the big water-cooled 750's had been improved over last year and they were confident that the tire and engine problems had been overcome. However, while doing our Saturday night Sherlock Holmes number around the garages, we caught the Suzuki crew practicing rear wheel changes, complete with a stopwatch-wielding team manager. They weren't talking, but we doubt that they were doing it for exercise. More likely, they were simply anticipating the possibility of excessive tire wear and wanted to be prepared should the Dunlop people advise them to change at one of their gas stops. Since not one of the super-fast Suzukis managed to make it to their second stop, we'll never know . . . until Talladega.

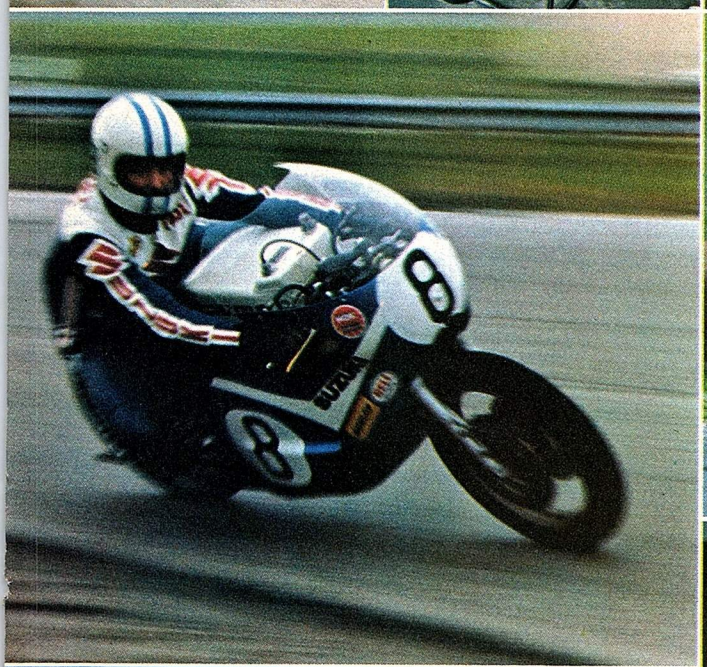
The Kawasakis were fast but not spectacularly so, at least during practice. One machine, ridden by Masahiro Wada from Japan, was by far the fastest of the lot, posting consistent over-160 mph trap speeds. In spite of this, the ability of Art Baumann, Yvon DuHamel, Gary Nixon and Cliff Carr offset the speed advantage and they were lapping faster. At mid-week, Wada's machine had been pulled apart and the crew was measuring everything to discover just what made it so cotton-pickin' fast. Based on Sunday's performance they apparently found the reason and modified the other machines accordingly.

Like Suzuki, Kawasaki had the speed and the handling but less promise of reliability. While everyone else was searching for a few more miles per

Gary Nixon gave the field one of his usual "hole shots" and led into the first lap. He ran third for a while, then led it, then dropped out.

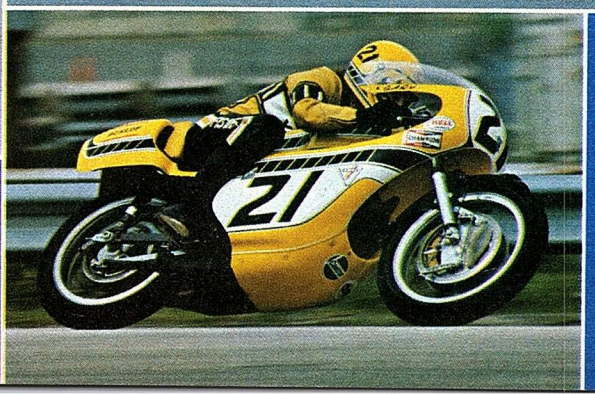
Honda's effort included pit crew from Japan with factory engineer. Bikes were fast, had minor problems.

Yamaha was at Daytona in force, covering all bets by importing World Champion Jarno Saarinen. It paid off.



Suzuki sat on the pole for the second year in a row. Paul Smart for the second time in three tries. Ignition trouble and a broken chain eliminated all but one machine.

Californian Steve McLaughlin led the Honda team when it came to lap times. Last minute tire change brought problems in race.



Gary Fisher won the 250cc combined race and looked to be the winner of the 200-miler till crank trouble put him out.

Motorcyclist Action Showcase

Daytona winner, Jarno Saarinen, exhibits his unusual style through the twisty infield course. Photography by Bob Greene

hour, they were concentrating on getting the machines to finish. Constant checks of vital components for signs of wear, and refueling dry runs were major concerns. They had the riding talent, all they had to do was go 200 miles.

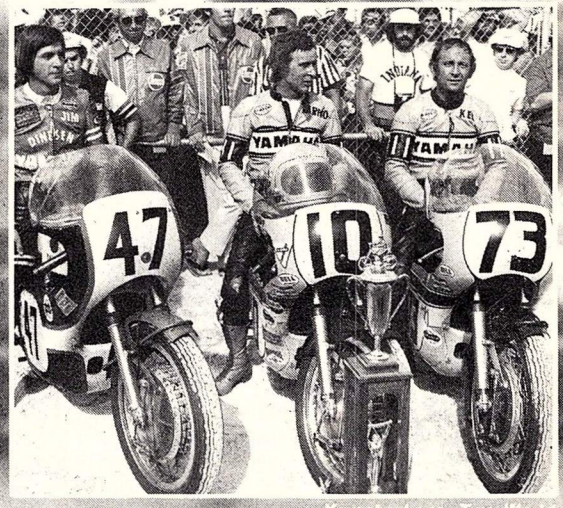
Harley-Davidson's perennial orange and black V-twins were there in force, but for the first time with the alloy XR-750. Last year they had not built the required 200 machines and had to miss the race that they've won more times than anybody. This year, even with the XR machines' proven reliability during the latter part of last season, they were off the pace when it came to sheer horsepower. Cal Rayborn and Mark Brelsford turned some surprisingly fast laps considering the top speed differential, but where they could make time on sheer determination and a whole lot of ability, the equally talented competition could cool it in the tight stuff and still lap faster by turning the throttle.

The machinery was not much different than used at Ontario in October, a race that had Rayborn sitting on the pole. Some attention had been paid to improving braking power and no less than three different front brake sets, all discs, were used during practice. With the horsepower handicap, the H-D race team is continually trying to improve all the other functions of the machines to clip every possible tenth of a second off their lap times. The excellent handling XR's are always a threat on courses putting less demand on top speed and acceleration, but at Daytona there are just not enough corners, and even these are too far apart. Harley-Davidson was definitely a long shot but could not be totally discounted.

Triumph has won the 200-miler three times, always with their 500cc twin. Dick Mann took it in 1971 aboard a BSA triple, possibly the same machine he rode this year, but this time it was in the guise of a Triumph since company policy now limits all racing efforts to the Triumph brand. In spite of two years' development on the machines that shocked everyone with their speed in 1971, the British triples were down on power, seeming to be slower than when they were factory tuned by BSA/Triumph engineer Doug Hele. Dick Mann's ultimate fourth place is due more to his deceptively fast riding than to any technical innovations from the Triumph camp. Fellow team members Gene Romero and Gary Scott were not so fortunate, Scott managing a 14th after Romero retired just past the halfway mark after running out of gas!

Fourth place in 1972 went to a Norton twin that was down on power but was ridden consistently fast enough by Phil Read to stay among the leaders. This year, Norton returned with one of the same machines and Ontario winner John Cooper, as well as a futuristic monocoque version to be ridden by Peter Williams. Ironically, the well-tried machine Cooper rode failed to finish due to a faulty oil seal while the new machine, that had not even been ridden until it reached Daytona, went the distance. After a couple of unexpected stops for minor adjustments, Williams dropped to 24th place, but the potential of the small and slippery new design was proven to all those who watched its progress. It is no doubt the design of the future. Even more ironic was the fact that one of last year's twins, on loan to American Dave Aldana, headed

DAYTONA



Yamaha Lane, Two World Champs and a first-year Expert dazzled the field.

Gary Nixon showed the form of a couple of years ago, led until engine seized.

both the factory machines until it retired with transmission troubles.

Just as *Motorcyclist* had predicted in the March issue, it was Jarno Saarinen aboard a water-cooled Yamaha who waited out all the bigger and faster machinery and went home with the win. Yamaha, however, was not without problems during practice. None of the new machines would stay in gear, requiring that every one of them have the transmission disassembled for surgery on the shifter dogs. It seems that the factory, for either cost reasons or through an oversight, had not undercut the dogs on a couple of gears as in all previous twin racers. A couple of days of hand work with a Dumore put the problem right but it interrupted an otherwise organized schedule and had team manager Kel Carruthers staying up later each night.

Some additional problems were encountered with crankshaft main bearings, a broken one actually forcing Gary Fisher out of the race while he was leading Saarinen by several bike lengths. A little post race snooping revealed that Saarinen had taken the precaution of replacing his complete crankshaft the night before the race while Fisher ran the same one he had used during qualifying. One of the reasons for our selection of Saarinen was that he'd spent a season in Europe running a prototype water-cooled Yamaha. His awareness of this single crankshaft problem could well have been the deciding factor in his win. For he and Fisher seemed to be very evenly matched. But Saarinen had the edge when it came to finishing, and knew it.

The race itself was almost a carbon copy of our "Daytona Predictions" that tagged Jarno as the most likely. The Kawasakis and Suzukis roared to the front, only to drop by the wayside one by one. Baumann and DuHamel actually did it together when they struck oil in a turn while well in the lead at 10 laps. Contrary to many reports, they did not make contact with each other until on the ground. Baumann went down first and in order to keep from running into him, DuHamel laid his Kawasaki down just a few feet from the sliding Baumann. Both got going again but were too far back to be in the hunt and were out for good by the halfway mark with unexplained problems.

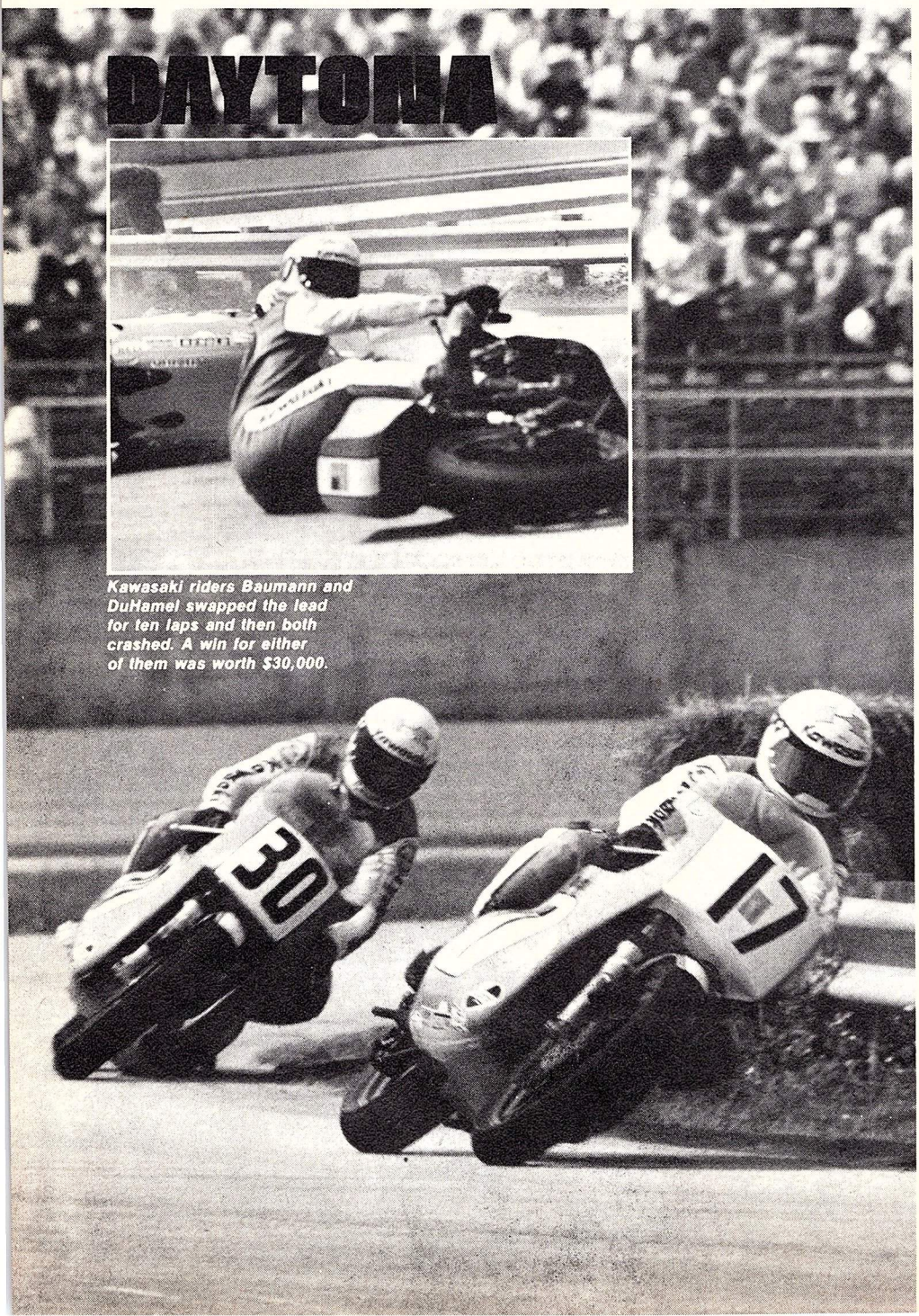
With their spill Gary Nixon took the lead, with Ron Grant and the Yamaha boys in hot pursuit. Nixon lasted 21 laps before seizing, leaving Grant with the lead. By lap 31 Grant had also become a spectator, joining all the factory Suzuki riders with exception of Emde who was to press on and gain a 7th place, creditable considering it was his first time aboard the big Suzuki and that his, too, was spitting and spluttering by the finish. Grant's had lost a chain, the same fate that robbed Geoff Perry of the win last year, while the remainder of the Suzukis ran into ignition problems.

With the Kawasakis and Suzukis sidelined it became a Yamaha parade. Thanks to the water-cooled cylinders and heads, the smallest engines in the race filled out the first five places on the leader board. They were running just as fast at the 150-mile mark as they had on the first lap, with no sign of anything more than an occasional drop-out. As per prediction, the hares were moving over and making way for the tortoises. That is, if you can call a 155 mph 350cc motorcycle a tortoise.

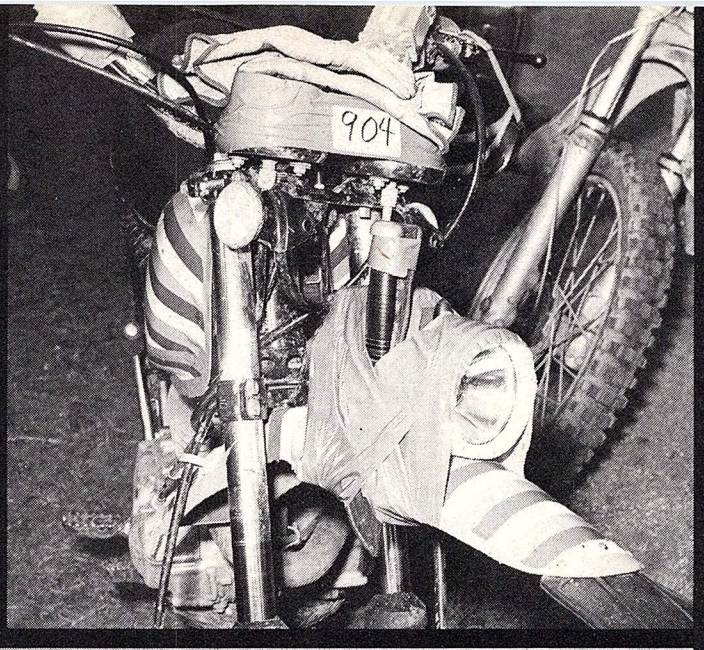
Round and round they went, each lap seeming to bring yet another Yamaha nearer the front as the bigger but more fragile machinery rolled to a stop. The Harley team was all but eliminated after Mark Brelsford had collided with Larry Darr, and Cal Rayborn crashed entering the chicane. Brelsford's machine was destroyed, and a couple of broken bones will put him out of action for awhile. Rayborn was more fortunate, but his broken collarbone and some internal injuries may keep him on the fence for the next couple of races.

As seems to be the tradition at Daytona, the last few laps brought as much drama as the first few. It was Saarinen, Carruthers, Dave Smith and teenager Jim Evans, all on Yamahas as the white

Continued on page 63



Kawasaki riders Baumann and DuHamel swapped the lead for ten laps and then both crashed. A win for either of them was worth $30,000.



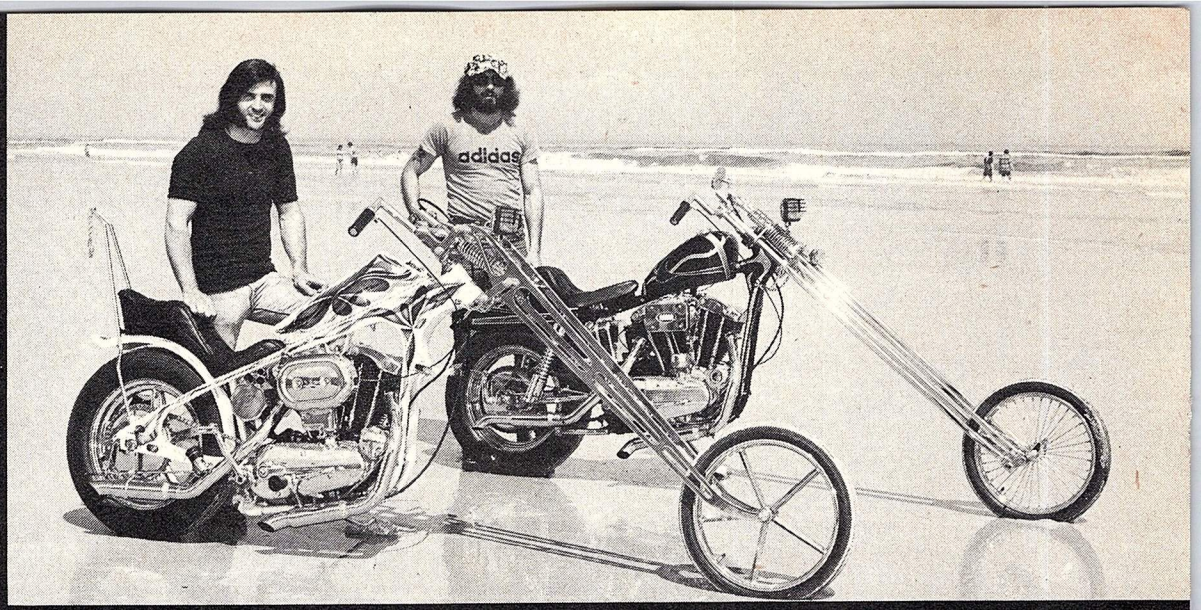
Far Left: *This charming young miss is about ready to sacrifice herself to the alligators in the annual swamp run held in the heavily wooded marsh country adjacent the speedway.*
Left: *The Alligator Enduro isn't about to get 904 without a fight: camouflage paint, jungle knife and searchlight!*

PHOTOGRAPHY BY ERIC RICKMAN

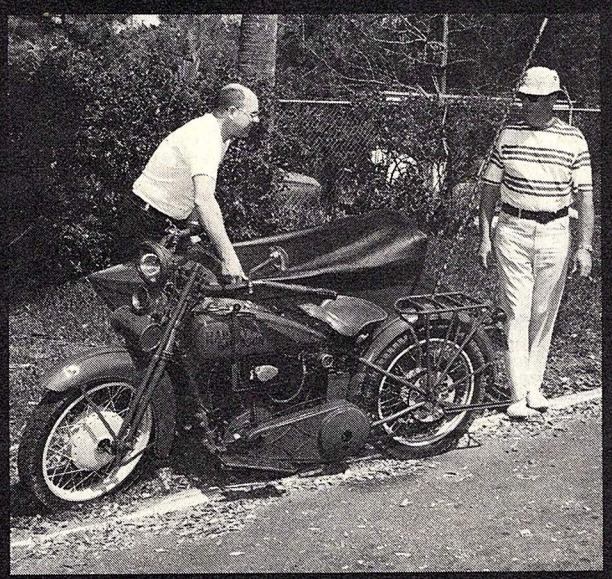
DAYTONA AND THEN SOME

Bob and Rick cruise the town.

Above: *Pay attention! The tenseness of one of the moto cross heats, held within speedway grounds, is caught in this starting line count-down. This was on Saturday, day before big race, and house was packed!*
Left: *And so were the bottomless pits of the man-made moto cross course. "Death, where is thy sting?"*

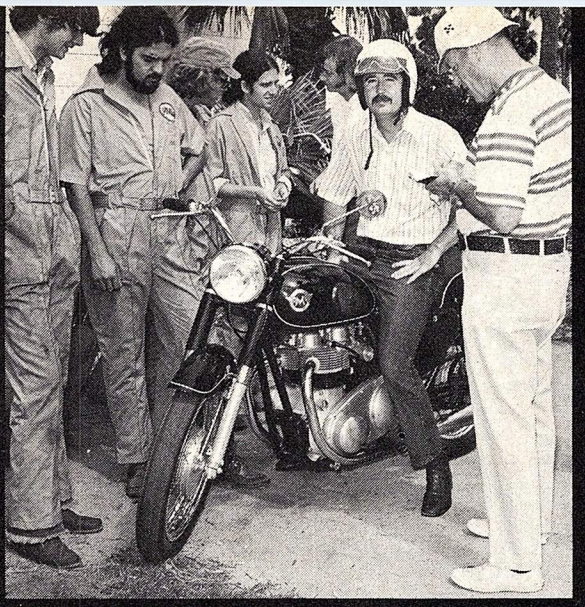


Right: *Yes, Daytona is many things to many people. To some it comes as the first opportunity to stretch the legs of their newborn chopper Sportster under balmy southern sky. And if these two ever return their tech sheets to Motorcyclist, we'll do a big feature on their trick bikes.*



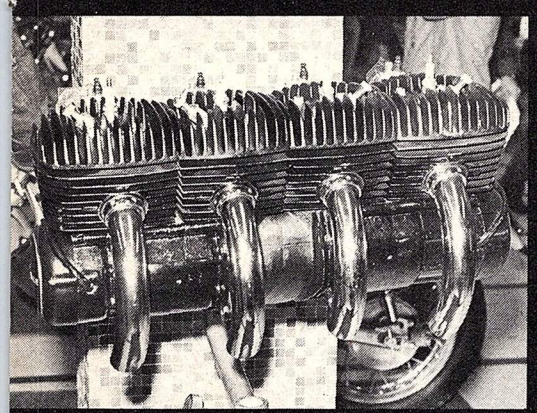
Right: *Ol' Angus McLarty ain't goin' for the tinsel and zoom of those new-fangled multi's. Nosiree Bob, he'll hang with his '25 Harley JD 74. It ran choice!*
Far Right: *Jes cruisin'—man. It's the favorite sport of thousands of bikers—up and down beautiful white beach behind the miles-long string of hotels.*

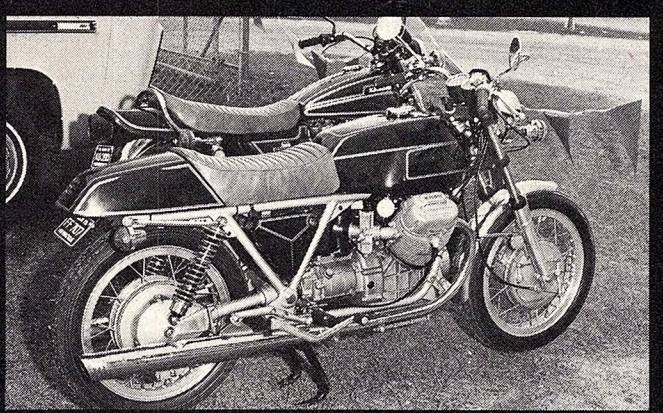
Right: *"Dad" from Pennsylvania zeroes in on the beach with his trusty ol' three-legged Guzzi—one of the regulars. Nose of hack is a replica of a canoe. Note handlebar muffs that permit Dad to ride in zero weather without gloves. Daytona is the motorcycle Mardi Gras; you see it all there.*



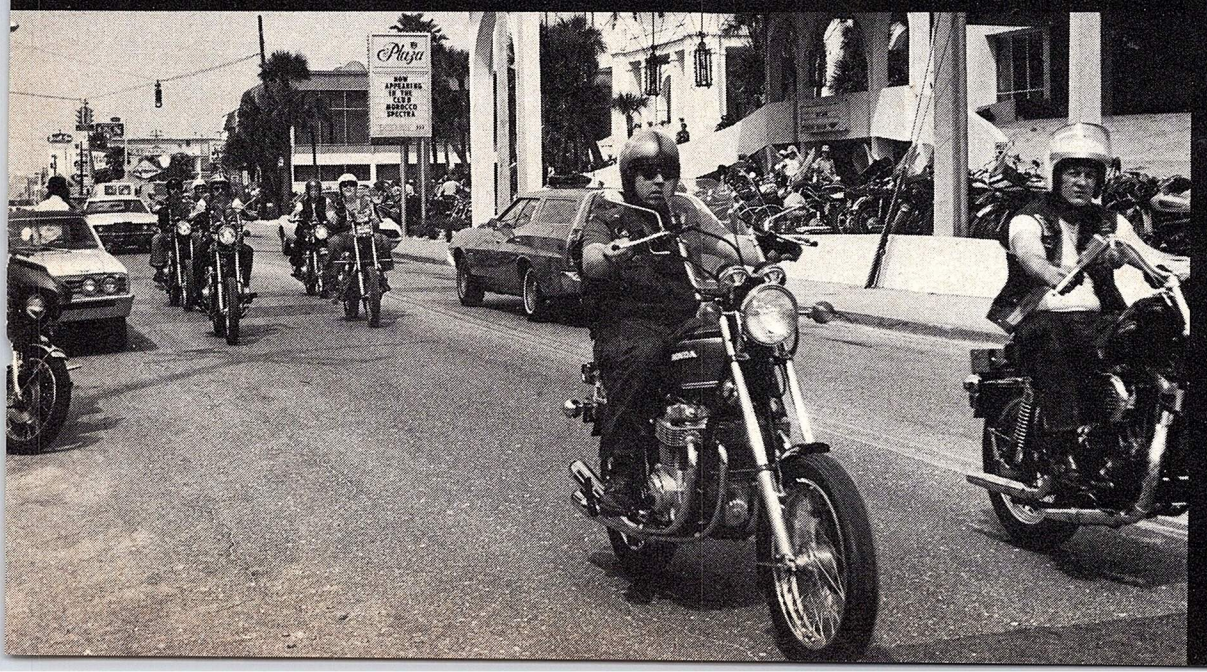
Far Left: *By all means look up Bill Tuthill's Museum of Speed when you're at Daytona. He has an excellent collection of bikes, boats and cars of yesteryear that put teeth in the old adage, "Nothing's new."*
Left: *Around the corner from the speedway, Don Gilbert caused students at American Motorcycle Institute mechanics school to "drop out" for a look at his super-sano '61 Matchless twin, the smoothest vertical twin I've ever ridden.*

Left: *Can't find a motel? Use your imagination, such as the ingenious cyclist peering out from behind his Kawasaki triple. Landlady Mother Nature provided plenty of thatch for the roof, solar heat and running water nearby. Campground for bikers is immediately adjacent to track.*





Far Left: *Meanwhile, back at one of the two nightly cycle shows, the troops were blowin' their minds with this European version of a stretched Yankee twin, now a 1000cc four!*
Left: *Chief Stylist of General Motors, Bill Mitchell, had his own bike show in track infield, including wild Guzzi V-7.*

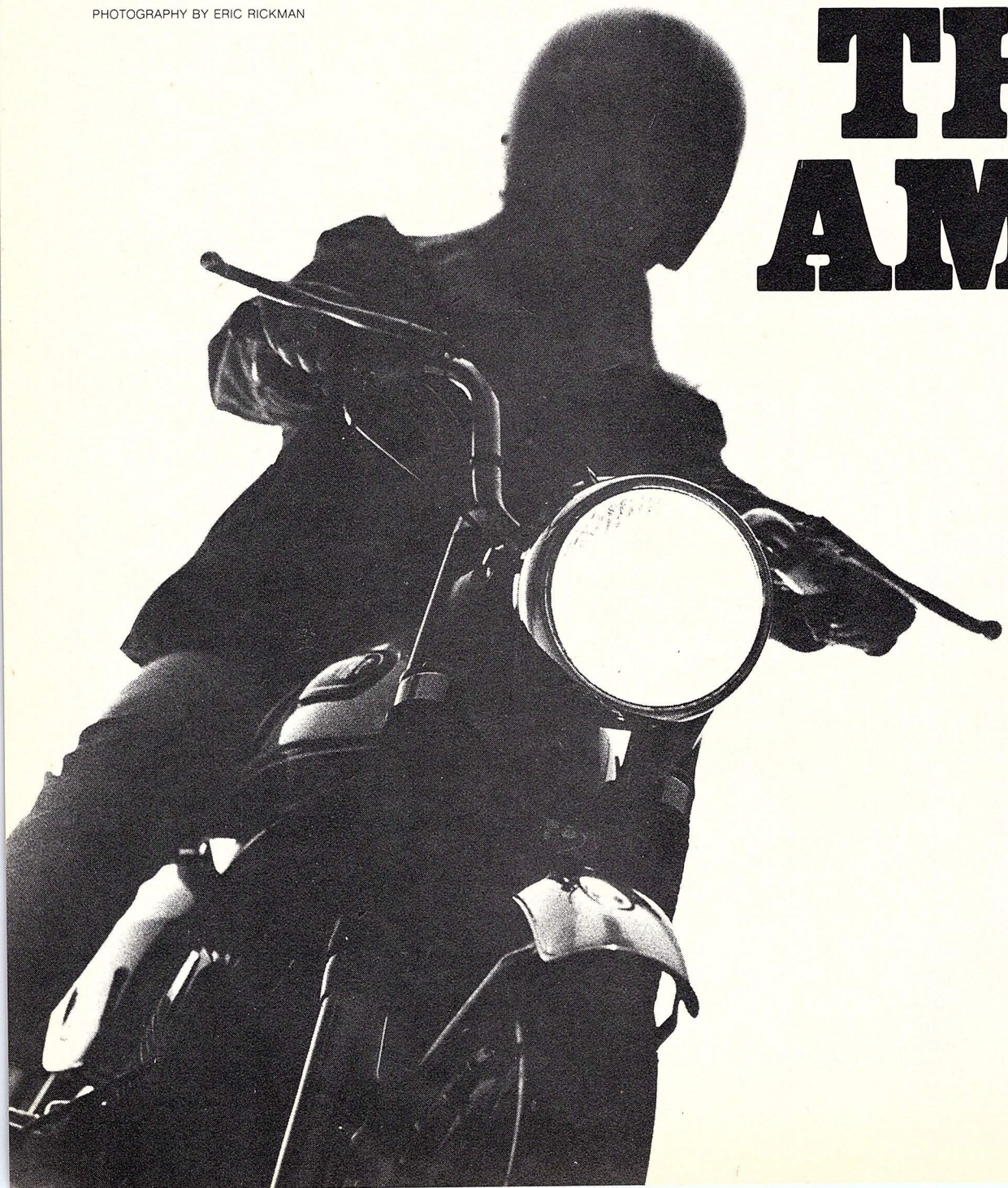


Left: *Crotch car jockies inundated the normally easy-going town of Daytona—no rumbles, no bad scenes, just thousands upon thousands upon thousands of bikers ogling at bikes and having a ball. For one solid week there's so much going on that it is physically impossible to make it from one event to the next, unless you leave early. '73 was the biggest Daytona ever. You won't believe '74!*

THE AMA

What is it?
Why is it?
Do we need it?
By Bob Greene

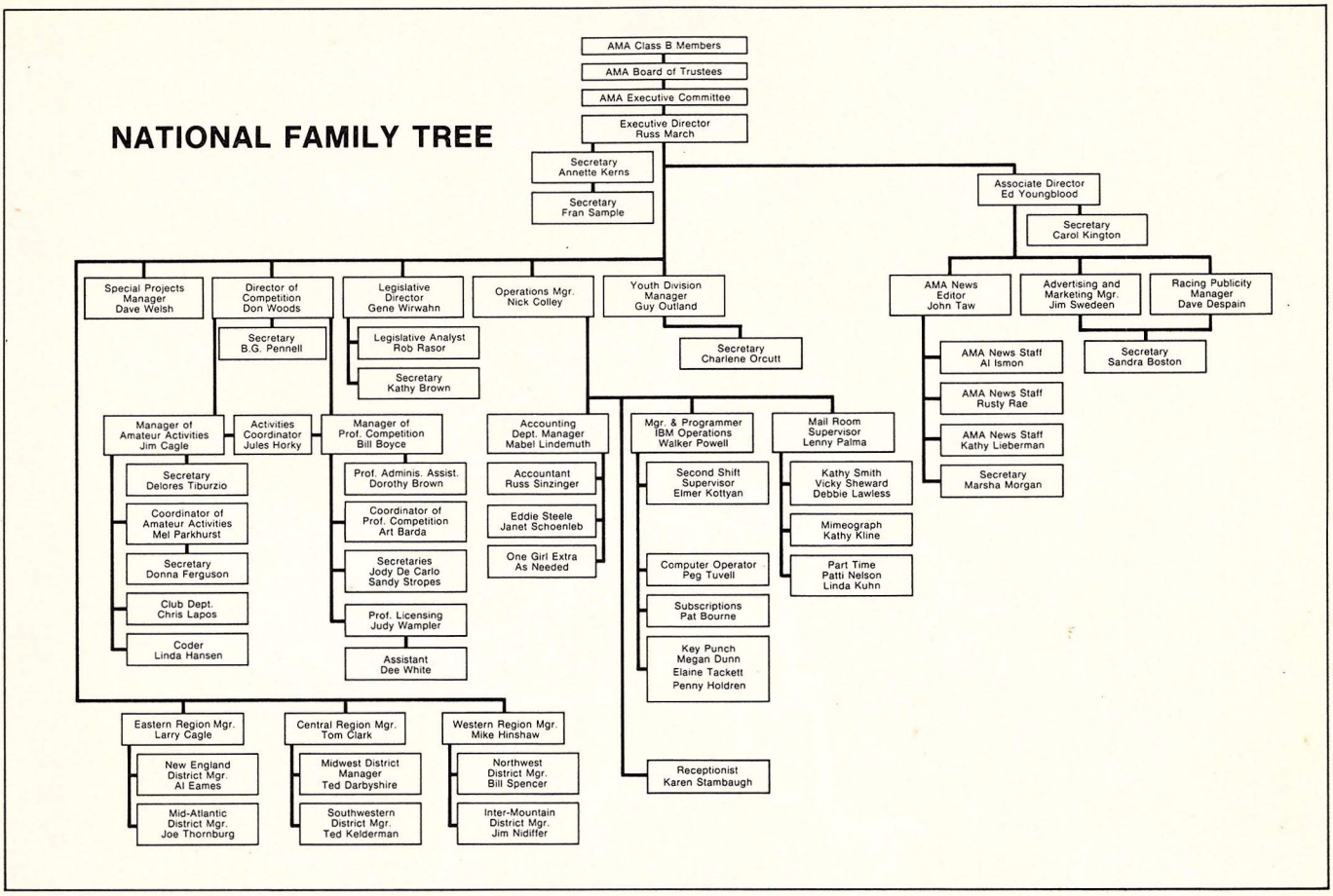
PHOTOGRAPHY BY ERIC RICKMAN



Heaven help him who attempts to organize the motorcyclist. For this can simultaneously be the orneriest and most benevolent, the cheapest and most generous, the thickest and yet the most perceptive critter God ever put on this earth. He'll knock you down to get through a corner, then come twenty miles back out in the boonies after the race to tow you in...upon hearing you had a little bad luck. He'll leave an eight-cent stamp off the return envelope he sends in for his results, while peeling off a ten-spot donation from a $150 paycheck to send an American rider to Europe. And he'll fight a good thing to the death just because of the way it was presented, then get around behind it and come up with a better solution you have to admire. He's quite a guy; just don't try to completely understand him or, worse, explain him.

Little wonder, then, that since 1904 the governing body of this two-wheeled band—the American Federation of Motorcyclists, later resolved in the American Motorcycle Association in 1924—has been in a tumultuous, yet paradoxically strong, position of control. Originally lacking cohesion through lack of numbers to sustain itself, the pre-war AMA maintained a low profile typical of the sport of that era. Direction and management were donated by heads of industry and the more mature, dedicated enthusiasts usually born of competition; the rest didn't give a damn as long as they had something to bitch about, like the outrageous thought of $2 annual dues, that didn't begin to cover organizational expenses. Many an accountant of big industry, or bike shop bookkeeper, was hard-pressed to qualify—hide—the time spent by the head of his company in keeping the National above water and on an even keel. Ditto for the dollars invested. Their reward: another year of organized sport, a measure of control, prematurity, and a kick in the teeth by many of their benefactors.

Through threats and acts of secession at the club, district and even state level, and sporadic and always unsuccessful attempts at formation of revolutionary challenging organizations, the AMA staggered, always enduring, always triumphant to a more or lesser degree. The secret of its survival: devotion and donation by a dedicated group of enthusiasts and businessmen, percentage



unknown, who, whether larger or smaller than their detractors, seemed to have an unlimited capacity for work. They not only personified the If-you-can't-beat-em-join-em theory, they were responsible for it. But the era of the ten-cent bowl of soup and the volunteer worker are either gone or at the exit, and the nine-member AMA staff and two-dollar dues that prevailed until 1970 were over-extended to the breaking point when amiable Russ March left his position as National Sales Manager of American Safety Equipment Corporation to take the helm of the American Motorcycle Association as Executive Director, to re-staff and revive the National Body.

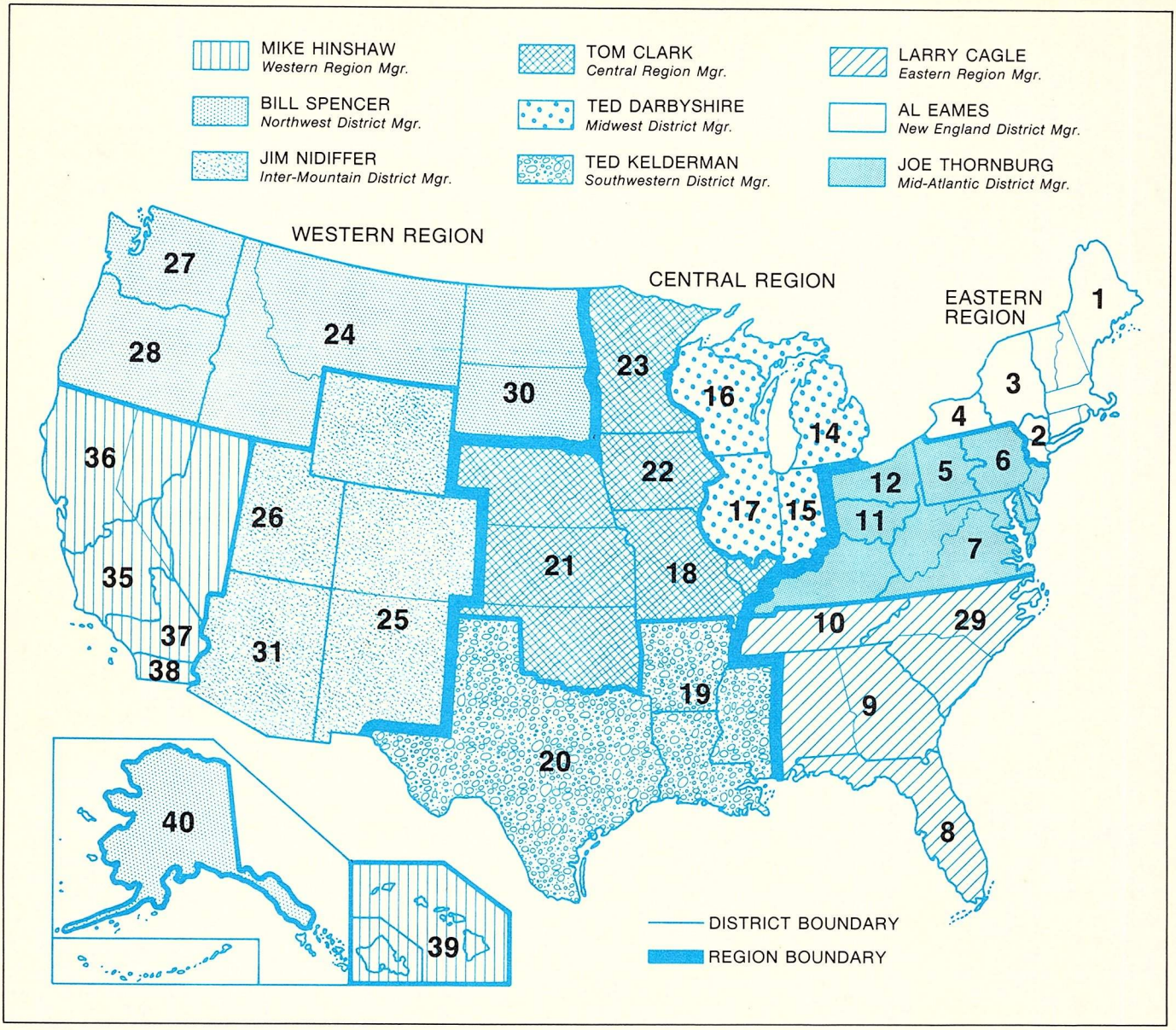
At the outset his task bordered on impossible. The job might best be compared to that of a parent of a large family which went to bed one night and forgot to set the alarm, sleeping through puberty and waking up at half past adolescence. The pressures of near adulthood, suddenly thrust upon them, were more than they had time to comprehend, so alarmingly had motorcycling exploded in a few short years. Public reaction to the mushrooming two-wheeled phenomenon, born of fear and breast-fed by an often unscrupulous press and film industry, set off Government intervention in the form of restrictive legislation. Obviously the simple sport of motorcycling would never be the same; the enthusiast would have to ride with one hand on the bars and beat off his antagonists with the other, hot shoe and politician rolled into one.

Enter Russ March and his pumped-up staff of 61 paid employees, huge by comparison but still meager according to the task at hand. Jobs had to get done fast, and to do them took money. Within two years annual dues soared to $12, approximately half of which was deemed necessary by March to cover a $3000 life insurance plan to forestall a threatening anti-motorcycle clause in current national health plans such as Blue Cross and Blue Shield. But compulsory insurance might have been premature, even a mistake, for it is going over like a lead balloon. Unfortunately it seems to be the pivot point of acceptance or non-acceptance for much of the membership, and it couldn't have arisen at a more inopportune time, for the AMA has finally turned on, got it all together to the full extent of their present capacity and is starting to get power to the ground.

At long last a member of the Federation Internationale Motocycliste, the strictly-racing motorcycle governing body of the world, the AMA is one of only four members of that global group that concerns itself with the whole spectrum of two-wheeled government, thereby being obliged to spread itself far and wide over the gamut of club activity, state and federal legislation, amateur and professional competition. Now an encouraging 200,000 members strong, it still represents only 4% of the motorcyclists of America. Most vital of their common needs is the Legislative Department of AMA, under the direction of attorney Gene Wirwahn, graduate of Michigan State and Alabama Universi-

WHAT DO I GET FOR MY MONEY?

1. *Membership card, pin and decal. Card qualifies member for $3000 life insurance if killed on or by a motorcycle, also qualifies member for national competition or activity points system.*
2. *Eligibility to purchase further regular life insurance plan without salesman's commission.*
3. *Eligibility to purchase motorcycle fire, theft and collision insurance at an average saving of $60 per year under going rates, due to lack of salesman's commission.*
4. *Eligibility to ride any AMA-sanctioned event, including road tours.*
5. *Eligibility to ride foreign FIM events, providing rider is qualified and, when necessary, obtains letter of recommendation from AMA.*
6. *Monthly AMA Report letter featuring "Member Alert."*
7. *Political services: legislative division, land use representation, 9 regional managers.*
8. *Organized sport, with annual tally and champions scored and officiated by AMA at district, region, national levels.*



THE AMA

ties. Gene, an active biker, is assisted by Land Use Specialist Rob Rasor, and backed up by nine Regional Managers covering the western, central and eastern regions of the United States including Alaska and Hawaii. None of these eleven fire-fighters are concerned with the professional racing aspects of the sport but, rather, cyclists' rights and club activity. They are strong men who often work around the clock—you don't want their job. Wirwahn traveled 22,000 miles last December, nearly all concerned with the BLM, and 20,000 miles a month isn't uncommon for one of the Regional Managers.

Wirwahn works primarily at the Federal level, alerted by his Washington hot line or one of the Regional Managers. Usually where to go is just a matter of priorities; the compulsory helmet battle has been fought over and over again, and is presently losing to the Feds who unfortunately have, and threaten to use, the power to withhold Federal Highway Funds from any governor who acts like he's about to sign a helmet law repeal. Test cases, such as Michigan, have been won in the State Supreme Court, only to have mandatory helmets rewritten back into law the ensuing year or so. The Federal Supreme Court refused to hear the issue five times, thus Wirwahn's feeling that his time can be more efficiently spent toward a better cause—no-fault insurance—which is even more devastating to the cyclist. Fortunately mass transportation media, buses, etc. are equally vulnerable to no-fault and can share the fight. AMA did get Massachusetts to exclude bikes, applying it to cars alone. But now the motorists are beginning to receive rebates and it would erroneously appear to be a good thing for all. Wirwahn front and center one more time. If no-fault goes through, the policy may cost more than the bike. AMA is now attempting to stamp out 40 no-fault bills currently being processed at the state level. If you want to know how it really is, ask a cyclist from Delaware; he has it now.

One weakness Gene Wirwahn sees from the cyclist's end of the horn is the lack of compassion between road rider and off-road rider. Actually their causes are one and the same, from a legal standpoint. What is the difference in being kicked off the Garden State Parkway or the Mojave Desert? United the street and dirt rider represent horsepower; divided, just a sputter. Michigan once considered closing all State lands, until Wirwahn intervened. When he got home, someone asked: "Where was the AMA?" Western Regional Manager Mike Hinshaw presented the motorcyclist's case at the recent California legislation hearing on mandatory helmets, but all you saw on TV was an Angel. After helmets were rejected, the same question: "Where was the AMA?" Only Cycle News newspaper credited Hin-

shaw with turning back the tide. The point is, AMA needs the full support of all motorcyclists.

Toward that end, when the Regional Managers were asked if they would mind if their names, addresses and telephone numbers were included in this article, they responded with delight, elated over the possibility of spontaneous help in the form of an alert or request to appear at an impromptu legislative hearing or even regular club meeting. But don't make it a one-on-one situation; the clock dictates that their time is precious and should best be spent with groups, the larger the better. You'll get more than your money's worth, including that yellow Dodge van with which each manager has been equipped. Ironically, there's been grumbling among a few of the troops about that expenditure, of which Russ March offers this truth: "When one man is obliged to cover four or five states, you've got to get him around somehow. The leased vans were not only the cheapest, but the most practical, considering their bike-hauling capability, and offer the most identity. We covered over 300 state and federal hearings on land use in 1972, not to mention the innumerable weekend amateur events these boys officiated. That takes a versatile, dependable set of wheels." The important thing is that these nine district men are well paid full-time employees, eager to respond to a situation whenever possible. Ring their bell; roll those vans, whether the issue is of local or national nature. Like First Aid, urgency is all-important.

AMA FIELD STAFF

Eastern Region
Larry Cagle
Eastern Regional Mgr.
P.O. Box 30328
Atlanta, GA 30328
(404) 256-2643

New England District
Al Eames
New England District Mgr.
P.O. Box 151
Dalton, MA 01226
(413) 684-2262

Mid-Atlantic District
Joe Thornburg
Mid-Atlantic District Mgr.
P.O. Box 141
Westerville, OH 43081
(614) 891-2425

Central Region
Tom Clark
Central Regional Mgr.
P.O. Box 338
Potosi, MO 63664
(314) 438-4725

Midwest District
Ted Darbyshire
Midwest District Mgr.
P.O. Box 71
Chesterton, IN 46304
(219) 926-5940

Southwestern District
Ted Kelderman
Southwestern District Mgr.
P.O. Box 4051
Bryan, TX 77801
(713) 822-2225

Western Region
Mike Hinshaw
Western Regional Mgr.
P.O. Box 696
Temple City, CA 91780
(213) 285-4714

Inter-Mountain District
Jim Nidiffer
Inter-Mountain District Mgr.
P.O. Box 20064
Denver, CO 80220
(303) 333-8471

Northwest District
Bill Spencer
Northwest District Mgr.
P.O. Box 272
Puyallup, WA 98371
(206) 848-3339

As the included organizational tree reveals, the AMA is many things to many people. Notice that no delineation is made between road and off-road activities; an amateur event is an amateur event, be it a road ride or a romp through the snow. Although road runs are given recognition and definition through a special rule book, sanctions and awards, they are less fervently promoted than the more demanding motocross, scrambles, trials and enduro types of contests. That the National is rapidly increasing its competition menu is seen in the recent agreement to provide national sanction—join forces with—the American Motorcycle Drag Racing Association, including insurance and other benefits. AMA is also into moto-cross to the hilt, with the first-ever 500cc Grand Prix for World Championship points this June 24th. And the third annual summer Inter-AMA and fall Trans-AMA series are immediately ahead. This year will see over 350 other AMA-sanctioned MX events in addition to these series. English trials, although under the National banner in Ohio, Michigan, Illinois and the east coast, ran under local sanction in the west. Next year, however, AMA will be involved in major international observed trials, and may put together an international observed trials series comparable to what has been done with moto-cross.

(Story continued on page 76)

AMA INCOME

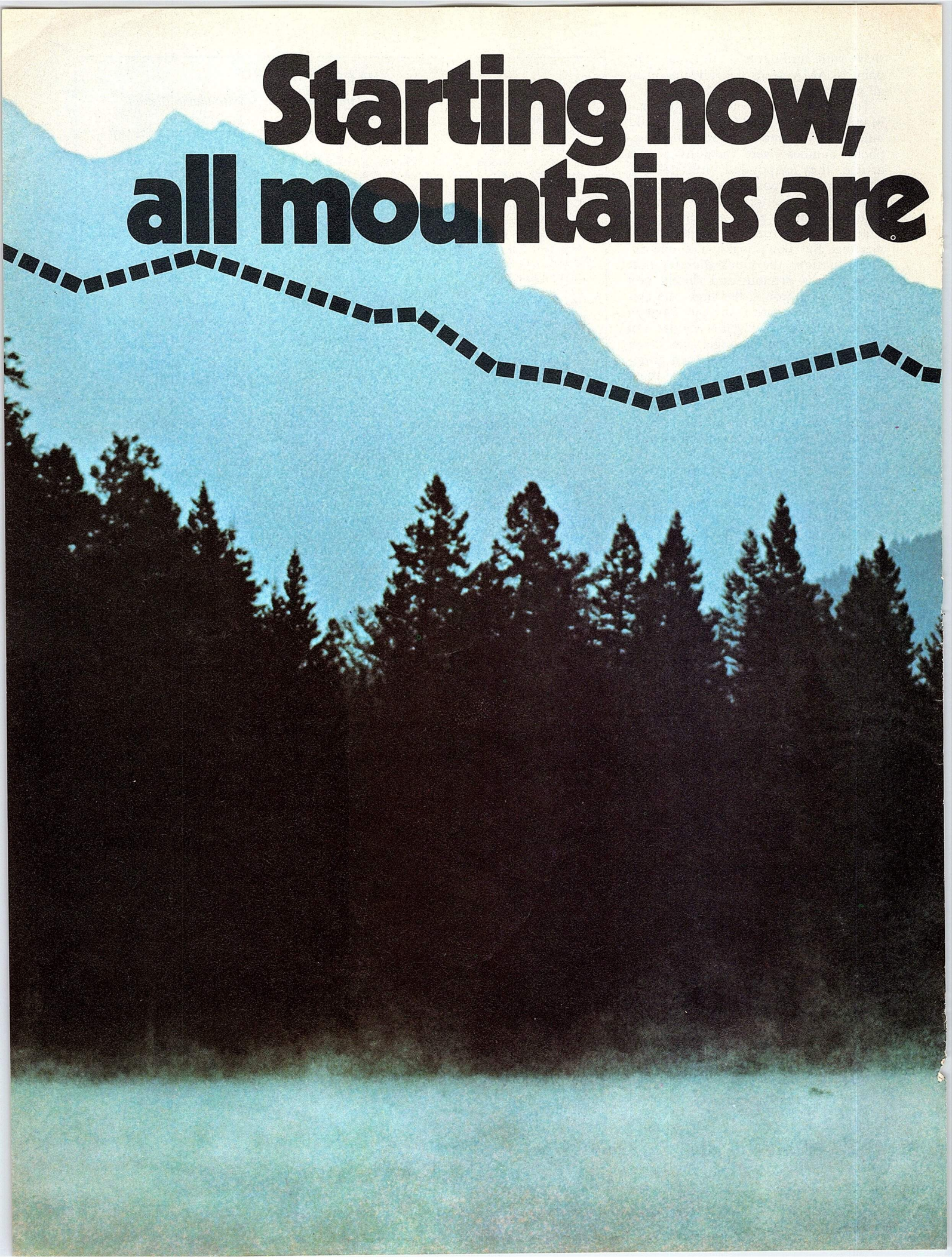
Membership dues	44%
Club charter fees	1%
Sanction fees	10%
AMA News (official magazine) subs	15%
AMA News advertising	12%
Professional racing	18%

AMA EXPENSES

Membership pins and decals	3%
Trophies and awards	2%
Printing	4%
AMA News printing	8%
Public relations	7%
AMA brochure	2%
Legislative material for field men	14%
Postage	7%
Telephone	5%
Legal and accounting	3%
AMA membership insurance	25%
Professional rider insurance	5%
Salaries	8%
Rent and utilities	1%
Equipment lease (IBM)	2%
Equipment purchase (typewriters, etc)	1%
Office supplies	3%

200,000 members, 2000 clubs currently at National's throat over cost of one can of beer a week: 25¢ dues including insurance.

Starting now, all mountains are



reduced by 25%.

Trying to take most small motorcycles uphill was enough to get anybody down. Not anymore.

Because Yamaha has introduced the GT1 Enduro and GT1 Motocross bikes, with engines that are 25% larger for 1973.

But that's not the only change in the new Yamaha minibikes. We've also increased the width of the rear tire for better traction, and lowered the frame's center of gravity for better handling and stability. And we added heavy duty rear suspension and a large new seat, so the bike takes the bumps instead of the rider.

If you want a powerful machine that'll take you beyond where the others are going, you want a new Yamaha GT1 or GT-MX.

They'll make molehills out of mountains.

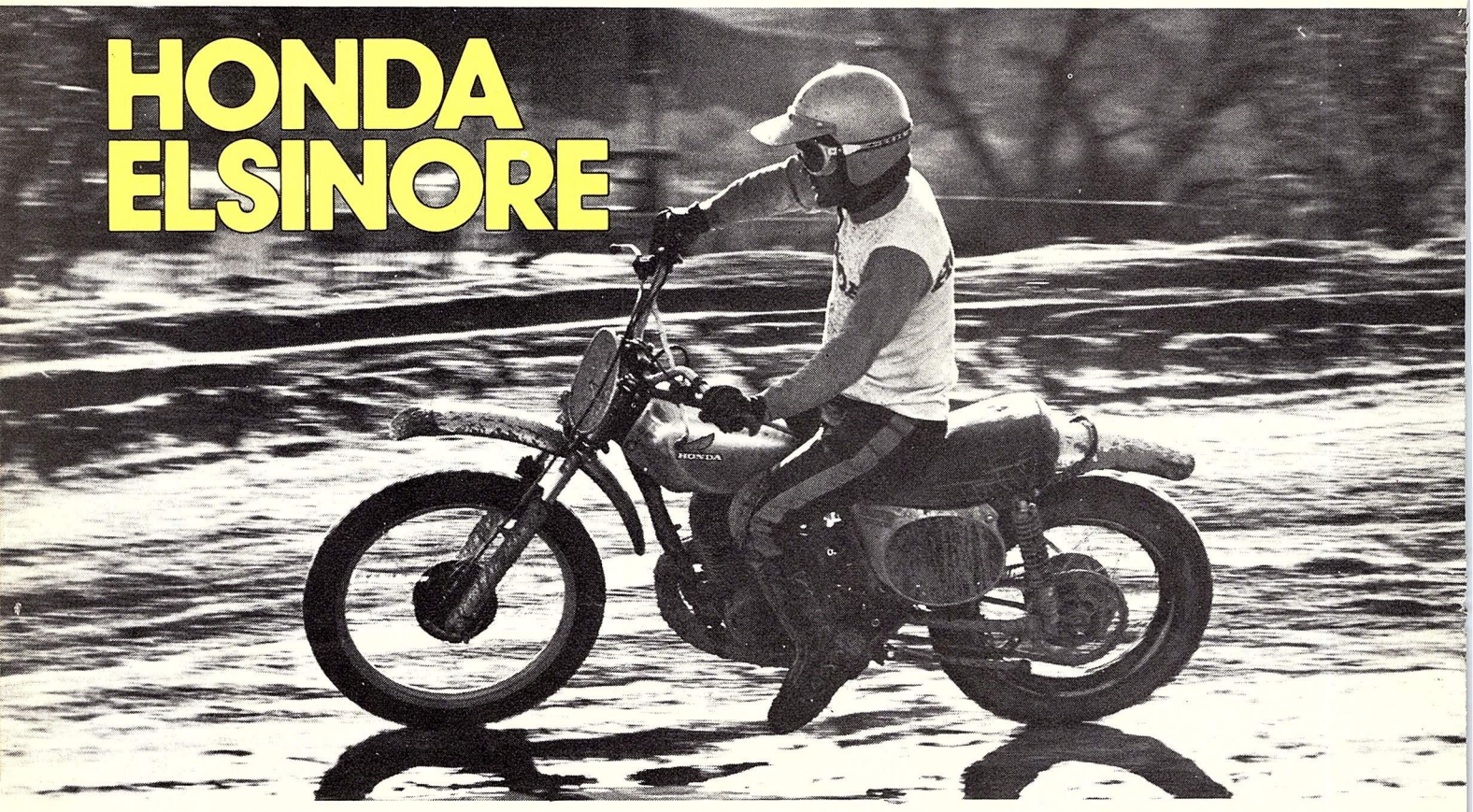
Someday, you'll own a Yamaha.

250 MOTOCROSSER COMPARISON:

With the increase in the popularity of moto-cross, there's been a tremendous interest on the part of the large motorcycle manufacturers in producing a competitive machine. For a long time, the serious rider had only a couple of choices, both of them European machines developed specifically for the World Championship moto-cross events held, at that time, only in Europe. But things are changing.

A few years ago, the Japanese builders made a move toward moto-cross, aware of the great sales potential of a competitive machine available through their huge dealer networks. Their first efforts were not too impressive, exhibiting their sophistication when it came to engine development but falling far short in the areas of chassis and suspension. The black mark against their handling

HONDA ELSINORE



KAWASAKI F-11M

didn't last long, however, for when Suzuki jumped into the World Championship events with both feet they came away as the World Champion. The following year they repeated their victory and woke everybody up to the fact that they meant business.

Yamaha had been concentrating their off-road efforts on a lights-and-muffler market, offering a version they called an MX'er but even they admitted that it was just a spin-off from the successful enduro machine, not an all-out racer. With Suzuki's success, Yamaha then built a serious moto-cross machine in hopes of stemming the tide of sales anticipated by Suzuki.

The sales personnel at Kawasaki were also paying attention to this new market potential and set their Research and Development people about designing a

MOTORCYCLIST TEST BY TONY MURPHY

PHOTOGRAPHY BY ERIC RICKMAN

SUZUKI CHAMPION

YAMAHA MX 250

250 MX TEST

winning machine. Suzuki had a head start on all of them, but the powers at Yamaha and Kawasaki were undaunted. They built prototypes, tested them and then built some more. In a matter of a couple of years they'd crammed a decade of chassis design and engine development and began to be looked upon as a threat even in International circles. There being no substitute for cubic dollars, the Japanese not only hastened technological development of the single-cylinder, two-stroke off-roader, but hired the most talented riders available to develop, test and ride their machines. Names like Robert, DeCoster, Hallman and Geboers had once been synonymous with European machines, but overnight they were the highly-paid Japanese team members.

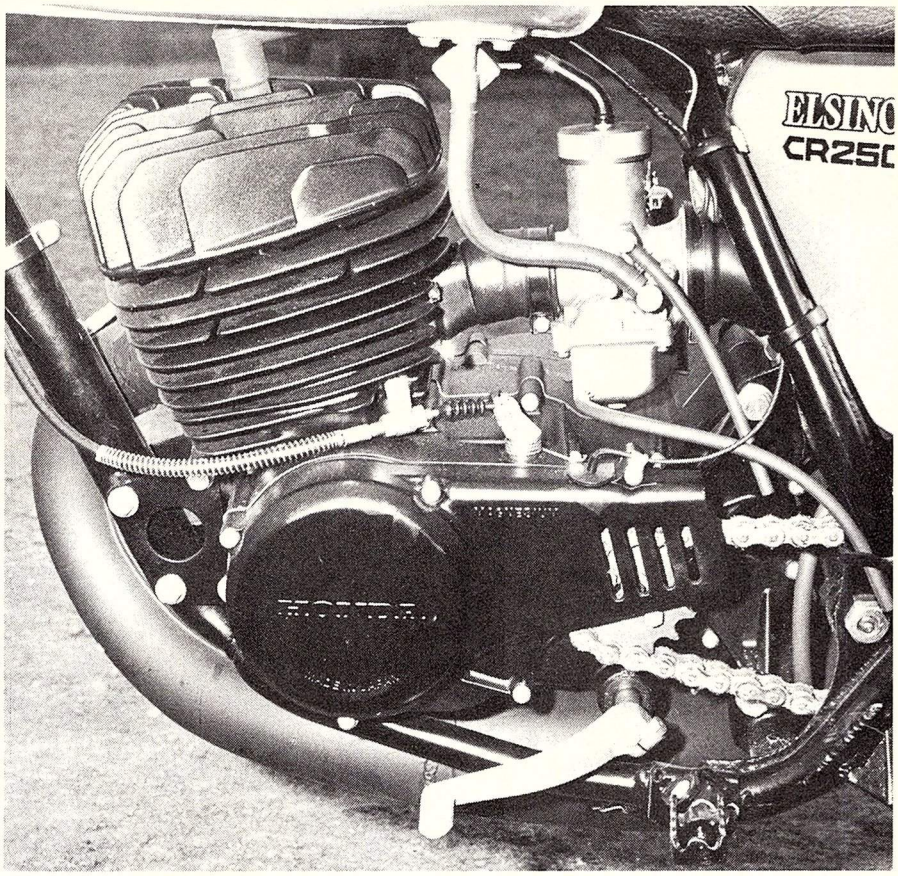
The hiring of the top European riders was the turning point for the Japanese moto-crossers. At first the machines looked to be better due to the remarkable talent riding them, and then with a change here and there they actually were better. The invaluable experience of the top riders transformed the factories' early efforts into top machinery.

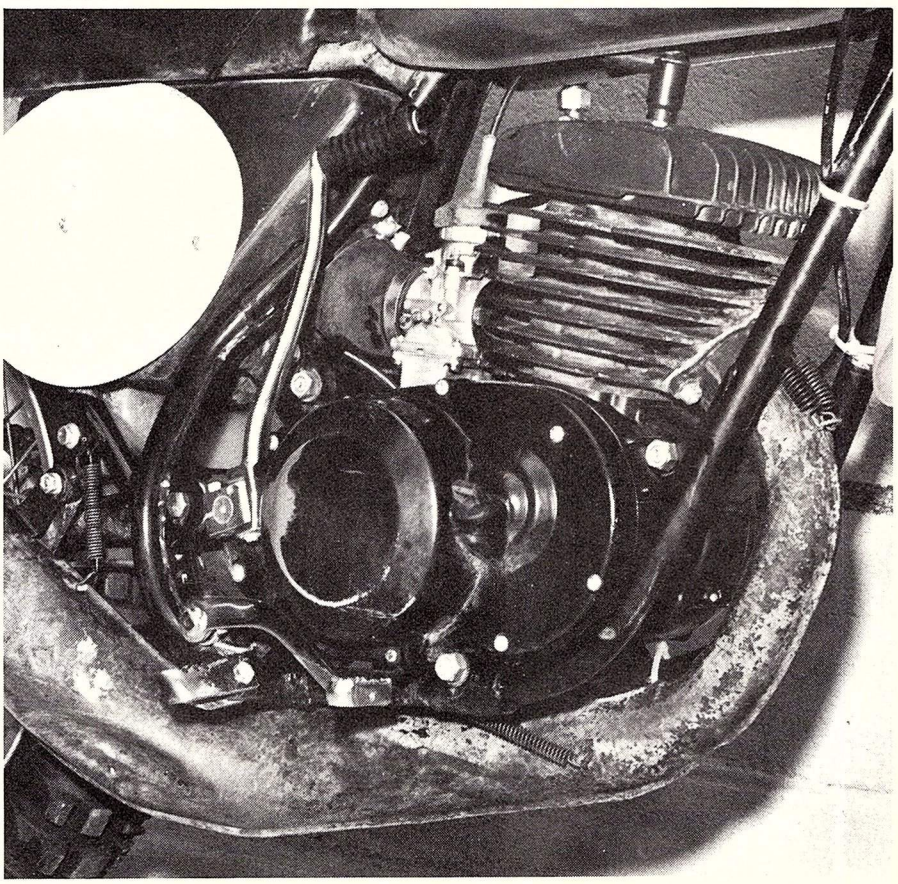
With all the rivalry between three of the four top Japanese manufacturers, Honda's absence went almost unnoticed. Not at Honda, however, for they too were hard at work on their own 250 MX'er, their first two-stroke, and the development was going ahead without benefit of top name Europeans. The introduction of this new Honda earlier this year came at a time when the other three machines were nearing their peak of development, presenting potential customers with a confusing array of machinery and features from which to choose. To help make that selection a little easier, we thought we'd gather the four of them together and do a comparison. Honda versus Kawasaki versus Suzuki versus Yamaha.

The four machines have much in common from a technical standpoint. All are two-stroke singles with induction via a cylinder-mounted piston port carburetor. The Yamaha is equipped with a reed valve between the carburetor and cylinder but otherwise conforms to the accepted practice of building moto-cross machines as lightweight singles. All feature five-speed transmissions, but while Suzuki and Yamaha are equipped with automatic oilers, the Honda and Kawasaki go with pre-mix lubrication. Apparently they have chosen to sacrifice the convenience of a separate oil supply in search of ultimate engine performance.

In the case of the Kawasaki we had to bend our rules just a little. The machine we had under test was a prototype with many, many hard miles of

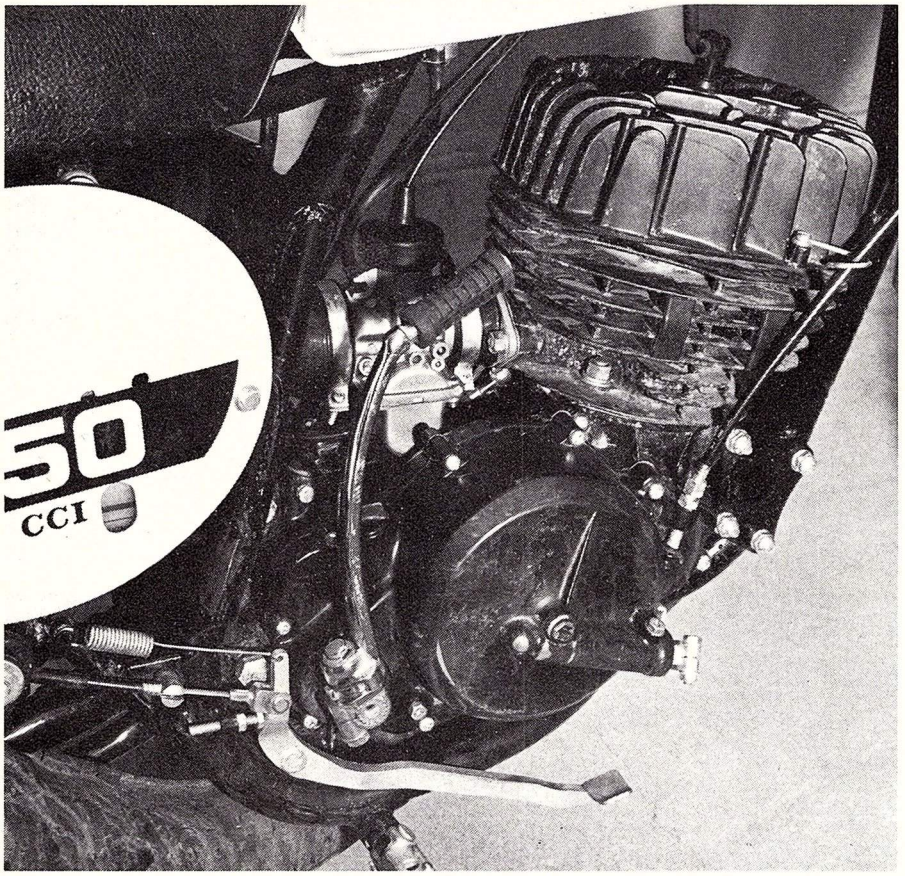
Honda: In their search for light weight, the Elsinore is provided with magnesium engine side covers and forged alloy shift and brake lever.

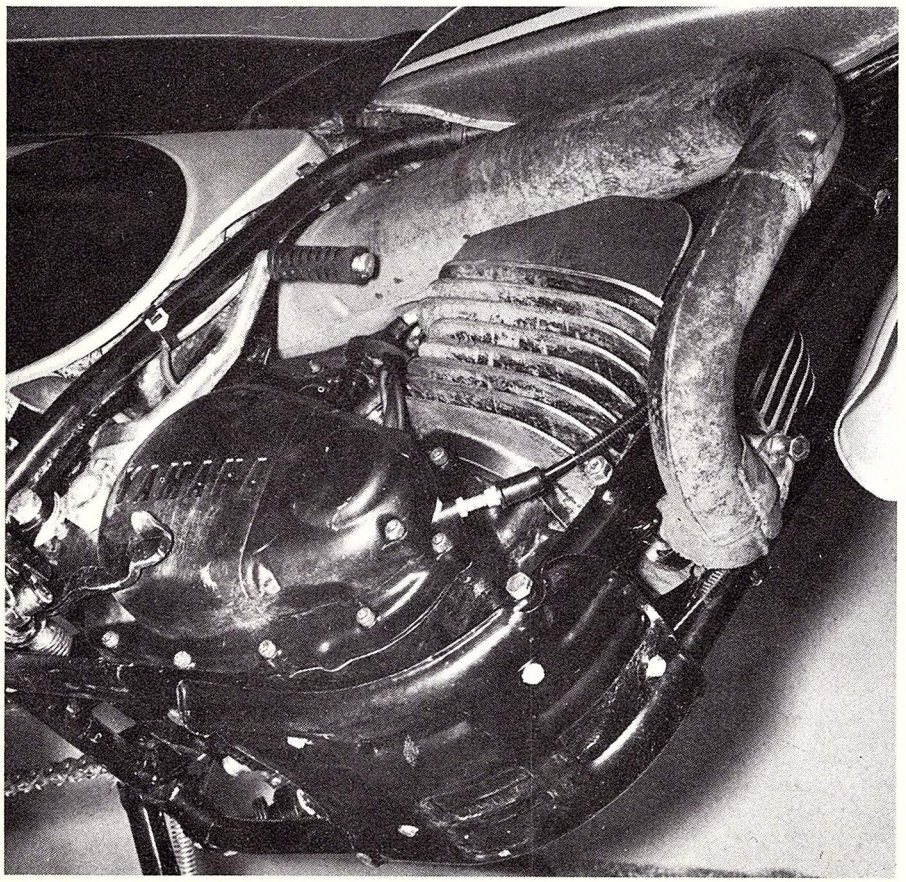




Kawasaki: While it is still a prototype, there are numerous features we hope find their way into production. The pipe could use protection.

Suzuki: The engine is small and compact but the clutch protrudes out over rider's foot. Brake lever is vulnerable and pipe is unprotected.





Yamaha: Unlike the other three, the Yamaha has its exhaust system upswept and out of the way and sports a rugged steel skidplate.

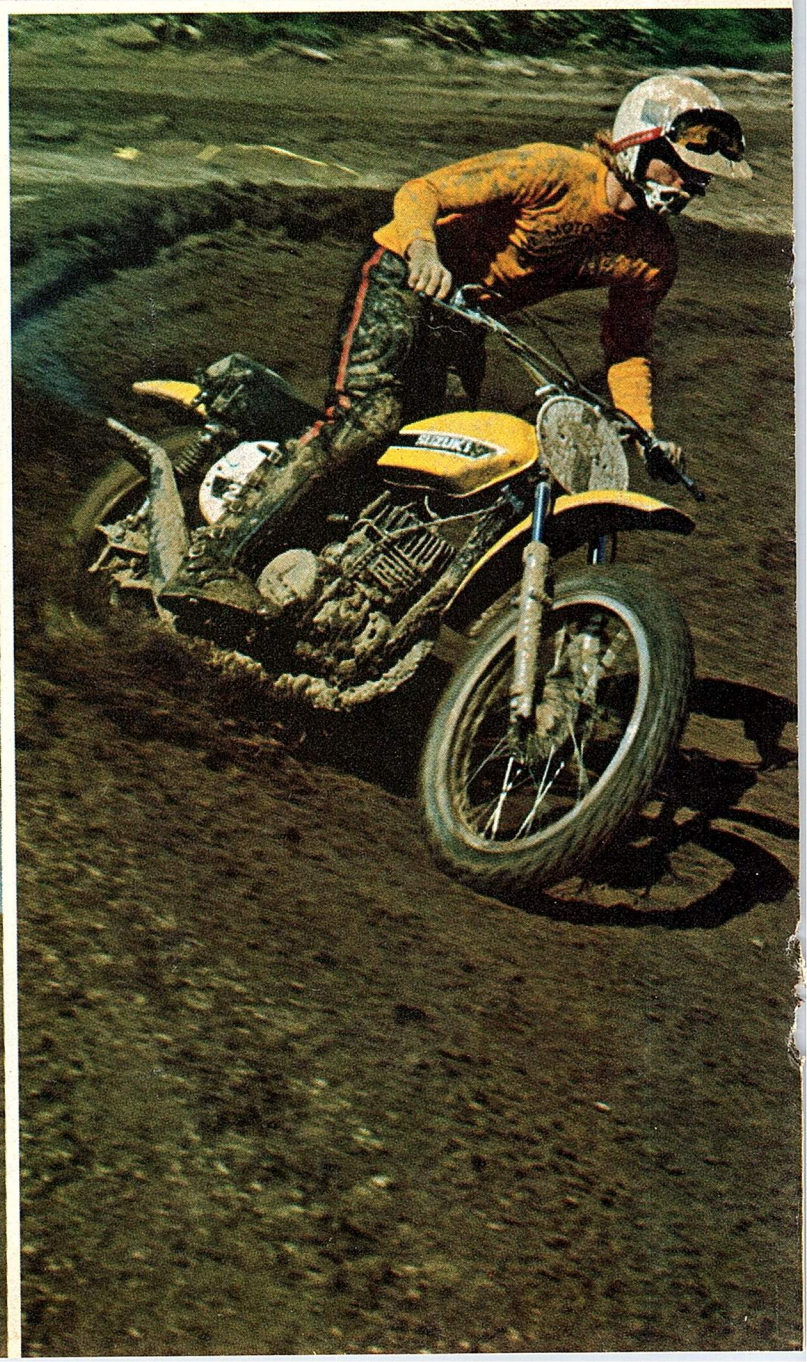
testing by the Kawasaki R&D department. Their production versions had been delayed and in order to include their machine it was the used one or nothing. With assurances that it was not "tricked-up" we included it, making a note to get one of the first available ones for a follow-up test.

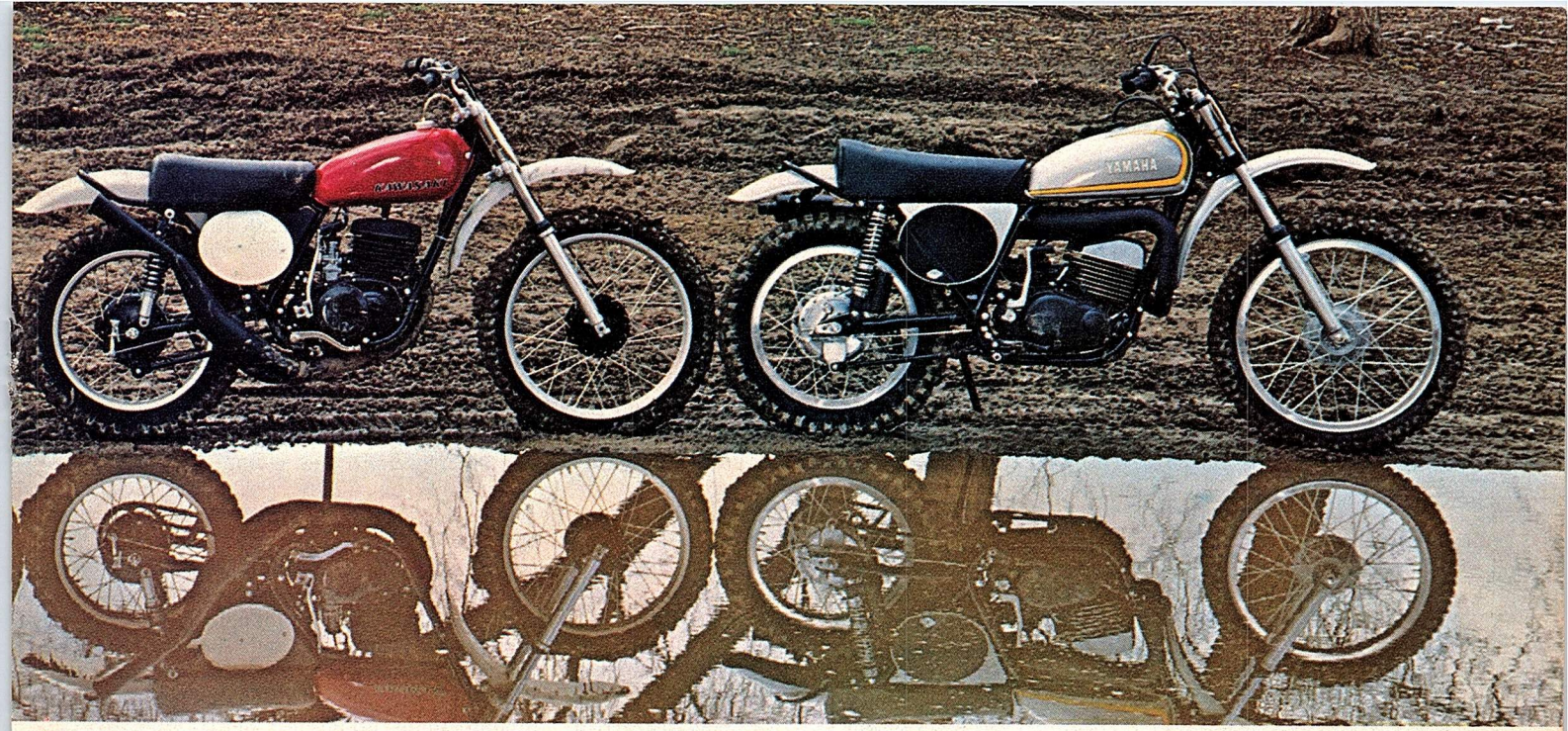
With outward appearances so near to being identical, by what criteria can one judge which is the best machine? In a sport where all-around performance is the goal, one must set aside aesthetic likes and dislikes and concentrate evaluations on the various areas that go into making up a winning combination. Power is a necessity, but not if the chassis is incapable of delivering it to the ground with rider control. Handling plays a big part, but without the ability to keep up with the competition in a straight line it is not enough by itself.

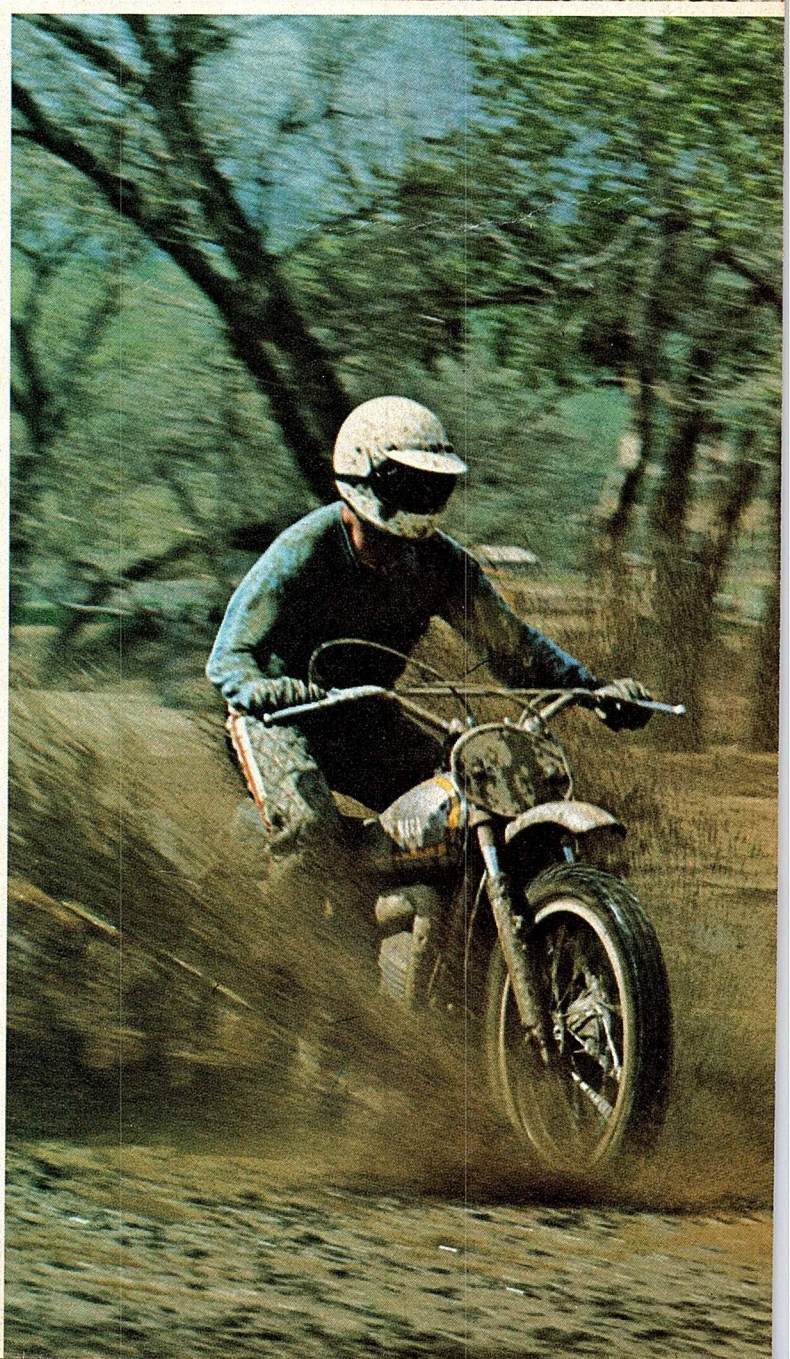
We decided to base our evaluations on two major areas; engine performance, both usable on-the-track performance and actual dynamometer figures obtained on the C.R.Axtell dyno, and on-the-track handling characteristics. While the dyno figures can be accurately compared from the comfort of an armchair, and the on-paper power range related to the feeling when riding the particular machine, the determination of handling is a little more difficult. To better understand the individual handling characteristics, we undertook side-by-side rides at the fastest speeds we were capable of at the Indian Dunes moto-cross course. By riding, switching and riding some more, impressions were formed of this or that machine through this or that section. Soon, we were able to state with confidence of not being contradicted, that Brand A behaves better through this series of hoop-de-doos but Brand B seems more stable in soft sand.

In some areas there was some confusion. Riding styles being as they are, we did come up with some conflicting opinions. By and large, however, when it came to major handling peculiarities, we were in complete agreement. For example, the Yamaha has a very sensitive rear brake, causing almost all first-time riders to stall the engine repeatedly before he develops a super sensitive right foot. We all agreed that the problem existed, but while some attributed it to the brake itself, others felt that it was the lack of an ignition flywheel that would contribute to total flywheel weight. No matter, we agreed the problem existed but were just not in agreement when it came to the cause. Logical discussion eventually turned even the most skeptical around, however, and we ultimately pegged the lack of a flywheel as the problem. So it went. As we spotted features, or the lack of them, they were noted and a list of likes and dislikes materialized.

SUZUKI
250


SUZUKI

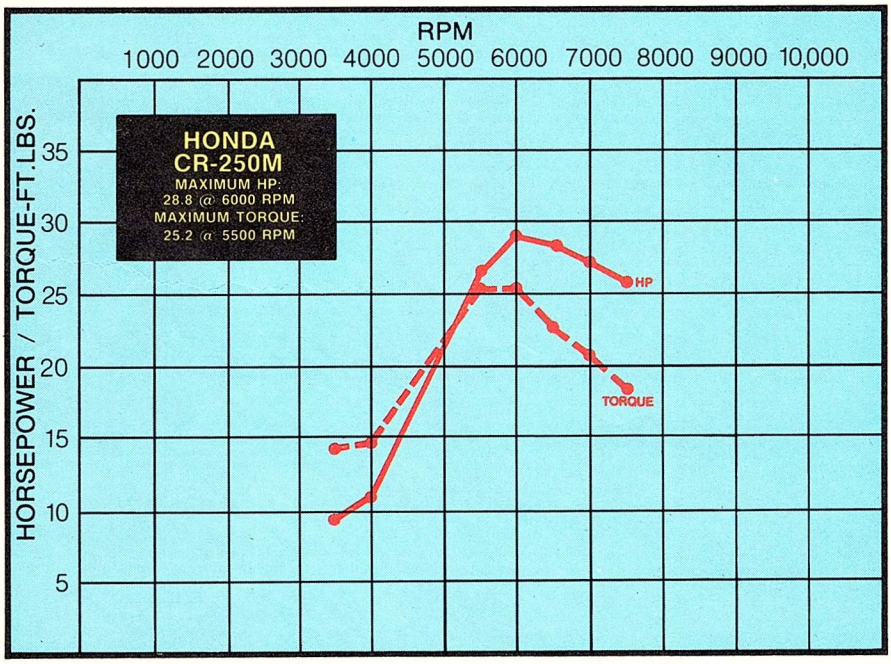

YAMAHA

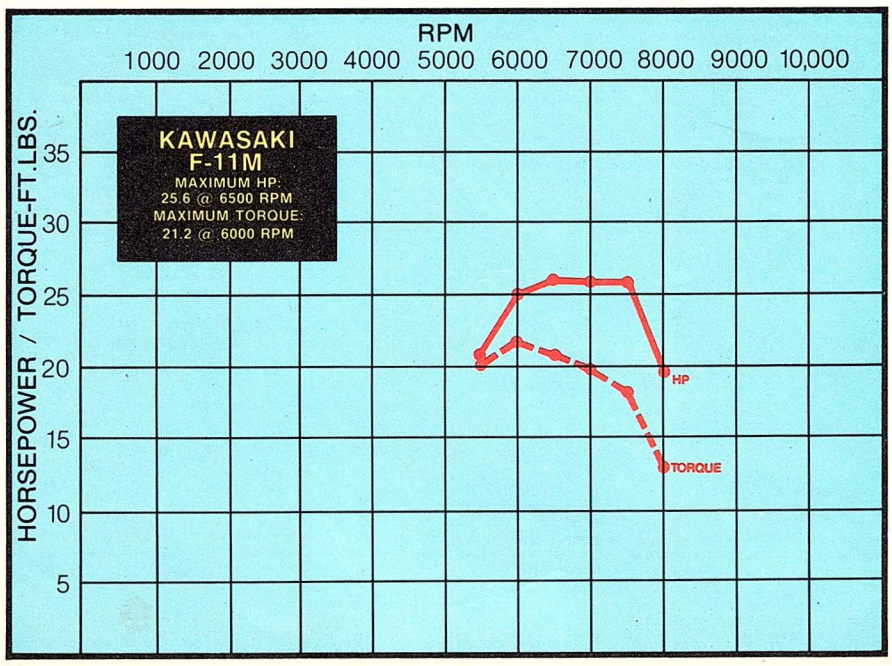


250 MX TEST

Before we even fired the first one up we got out the tape measure and scale to record their dimensions and weights. The Honda won the weight contest hands down, tipping the scales at 229 pounds full of gas. That's light. The Yamaha weighed in at 258, the Suzuki at 249 and the Kawasaki at 240. Weight is a big factor in both performance and control, generally offering the lighter machine an advantage in the long run. Rider fatigue is less of a problem, with all else being equal, and the engine can get the same job done as a heavier counterpart with less power. Weight distribution of the four machines varied a little, with the Honda and Kawasaki both having about 40% of their weight on the front wheel, the Yamaha having 42% and the Suzuki 46%.

As the dimensions were tabulated, each of us formed mental pictures, based on folklore as well as some experience, of just how each machine would probably handle due to its particular figures. The Honda wheelbase was the longest at 57 inches, considered by many to be too long or at least on the verge of being too long. The Kawasaki's 54½-inch qualifies as the shortest, conjuring up bad images of a quick, hard-to-handle chassis. Yamaha and Suzuki share 56-inches of wheelbase, placing them right in the middle of the spread and probably drawing an approving nod from those in the know. Or at least from those who think they're in the know. But, as we learned a long time ago, you write the impressions after you've ridden the machine, not from a list of specifications. The engineers at Honda and Kawasaki have tape measures too. If they wanted a 56-inch wheelbase, they could have built their machines on a 56-inch wheelbase.





Virtually all the other physical dimensions of the four are identical, varying here and there by an inch or two, but adjustable to some degree by moving or changing handlebars or sliding fork tubes up or down in the fork crowns. As we were to find in our on-the-track portion of the test, a couple of them would benefit from such adjustments. They'd benefit as far as our rider weight and riding style but might well suit many a rider as they are. It's a problem to build the ideal for everybody, therefore the small built-in adjustments are a good idea and well worthy of mention.

The Honda feels as though it is the biggest of the lot, but that's due mainly to the longish wheelbase and general layout of the controls. A look at the accompanying dimension charts will reveal a couple of areas in which the Honda's dimensions differ by only an inch or so, but that inch really does alter the riding feel. We liked the "feel" and found ourselves continually comparing the others to the Honda rather than vice versa.

If you're a feature-counter it is hard to decide which one offers the most. All have the means of fork adjustment as we previously mentioned, and all have adjustable spring tension on the rear shocks. Yamaha and Honda offer rear shocks with built-in cooling devices, consisting of no more than a finned reservoir that in theory allows the hard working shock fluid to lose a few degrees of temperature before going back to work. The effectiveness of such a system is debatable, particularly in view of the fact that it adds to the unsprung weight of the rear wheel assembly.

We've always been advocates of side stands on all off-road motorcycles, feeling that the convenience is well worth the added weight. The Kawasaki is the only one that doesn't have one but that's probably due to the fact that the machine was a prototype model not intended for sale. The Honda and Yamaha have been one-upped by the Suzuki since their stand and bracket can be removed. The other two's will come off but the remaining jagged bracket could be hazardous under racing conditions.

The rest of the accepted moto-cross features are pretty much shared by all. Plastic, unbreakable fenders, adequate chain guides, kill buttons, number plate side covers, tucked-in control levers and alloy rims. The rims in the case of the Honda and Kawasaki are the smooth unflanged steel-looking type while the other two are still capable of collecting mud and keeping it. The foot control levers on the Honda get further bonus points by being forged alloy that proved

almost unbendable.

We won't get into the nuts and bolts of the engines to any depth since they are all pretty conventional and the figures from the dynamometer tell a whole lot more about the engine's function than the shape or location of ports in the cylinder. Relating the engine internals to reliability is also difficult, particularly on a machine that is intended for competition and the abuse that breeds. Rather, we'll assume that the four manufacturers involved are up to their usual standard of reliable construction and use the dyno figures as an example of the efficiency designed into each engine.

The Honda was the first machine to undergo the scrutiny of the impartial dyno scale at C.R.Axtell's shop in Glendale, Calif. As a result, we were not immediately aware of just how potent their first two-stroker is because we had no figures from the other 250's. As we ran the Yamaha, then the Suzuki and the Kawasaki, it became apparent that the Honda was definitely the top eliminater when it came to horsepower numbers. Developing 28.8 at 6000 rpm it not only tops the maximum figures of the others but develops the maximum at a lower rpm. With a 26.4 figure at 5500 and 26.7 at its fade-out point of 7500, it provides a very smooth, yet very strong power curve. Add to this the fact that Honda is outweighed by some 29 pounds by the Yamaha, 20 pounds by the Suzuki and 11 pounds by the Kawasaki, and one would be very surprised if the race track performance was not equally as impressive as the dyno performance.

More than maximum horsepower figures, we looked for the range over which each engine developed power at or near its peak. A machine with 30-odd horsepower is not much good if that amount of power is only developed at a given rpm and the numbers before and after that figure are considerably less. Not only is such a situation misleading as far as actual engine usability, but a big step up or down in power over a narrow rpm range makes a machine harder to ride than if it had a smoother and lower series of horsepower numbers.

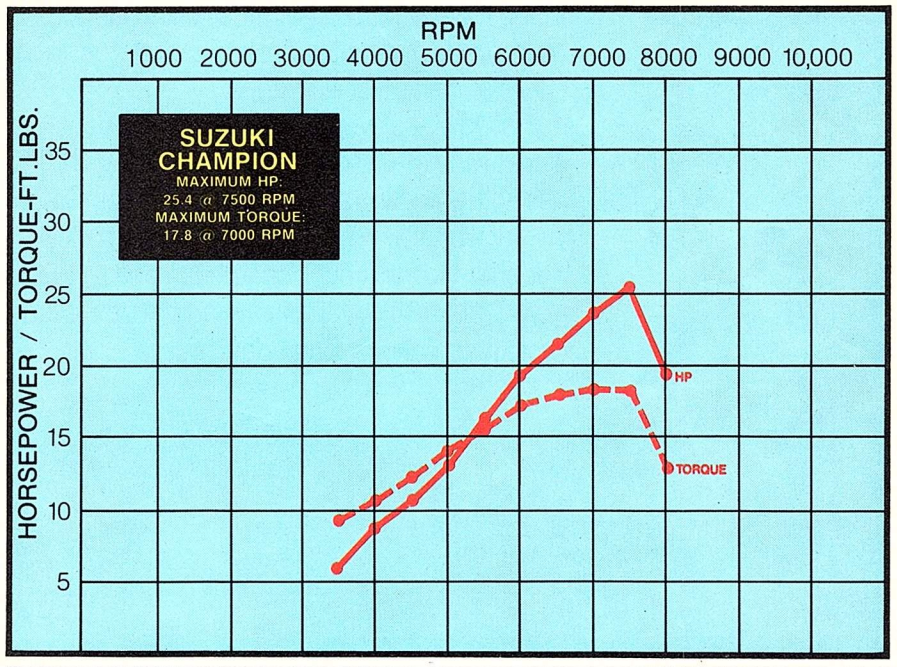
All of the machines had good usable ranges, but as might be expected, some were better than others. The Honda and Yamaha held on longer, averaging about 2500 rpm of good strong range. The Suzuki and Kawasaki fell a little short but were nevertheless very tractable and not in the least could either engine be called peaky. Besides, these evaluations are based on what probably will happen under riding conditions, and since riding the machines was next on our schedule it makes little sense to speculate.

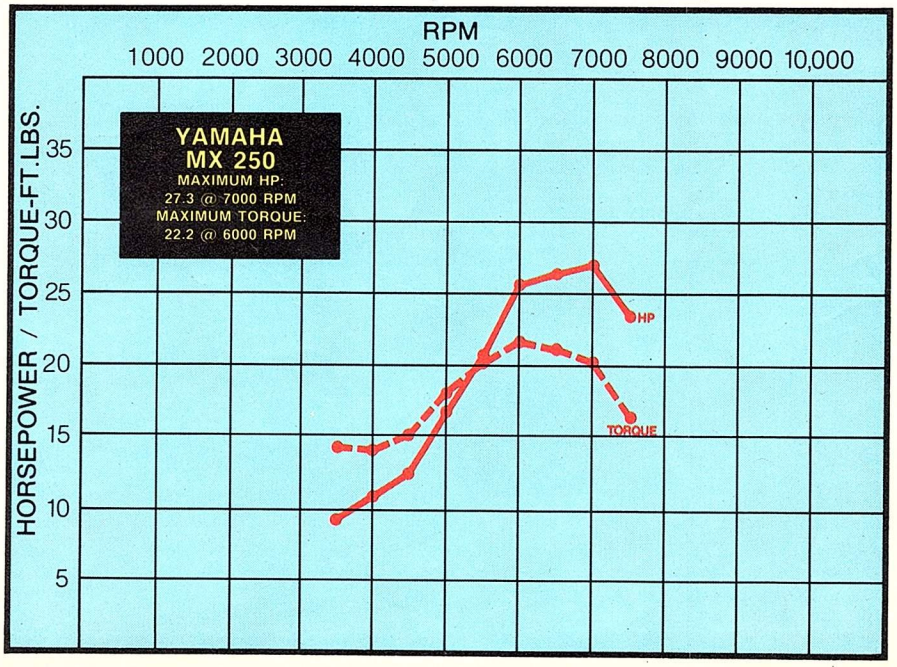
Indian Dunes Motorcycle Park was the site of our testing for several reasons. It has two separate and distinctively different moto-cross courses that are somewhat representative of the various courses we've experienced throughout the US. There's sand, mud, hard dirt, soft dirt and even a few places with tree roots popping up out of the ground. There's precious little grass, however, but we're not sure that the machine's design helps as much on that type of surface as the rider himself.

One by one the machines were ridden around each course. We wanted to become familiar enough with each of them to instinctively react to all situations in the way that best suited the machine's characteristics. In that way, any peculiarity on the part of the machine becomes less of a bad feature just as it would to a rider using one regularly. As might be expected from the obvious research and development that's gone into each of them, first impressions were good for each one. They behaved as one expects a moto-cross machine to behave and it was not until we got into the side-by-side, I'll-race-you-and-you-race-me sessions that some of their peculiarities presented themselves.

The Honda and Kawasaki seemed to have the easiest to use power, the Honda far and away having the edge when it came to actual acceleration. The combination of their power and lower weight are no doubt responsible, for, in general, the Yamaha's handling is every bit as good as either. The Suzuki falls a little short in both areas, again probably a consequence of being down on power and up in weight.

The Yamaha exhibited one problem that made it difficult to accurately evaluate its potential performance, at least





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This is the Yamaha DT3-250. It's an inexpensive way to get around – to work, to school, or just for fun.

It's a street bike that can be pitted against the best of them. With all the right equipment. Front and rear turn signals, safety reflectors, and a powerful, reliable Yamaha two-stroke engine with Torque Induction® for better gas mileage and faster pickup. And a reliable primary kick starter, to make sure it starts as fast as it stops.

And since everybody looks at a Yamaha, we're giving them something to look at. The DT3 has entirely new graphics, in Competition Green.

If words like "reliable" and "performance" are important to you, check out the Yamaha DT3-250 at your nearest Yamaha dealership. It's a motorcycle that makes a long ride a breeze.

This is the Yamaha DT3-250. One of the toughest off-road bikes you can buy.

It's powerful and rugged enough to fight its way to darn near anyplace you want to go. It has a 2-stroke, 7 port engine with Torque Induction®– a one-way reed valve system that meters out just the right amount of fuel mixture. That means the 250 won't load up at the low end; instead, you get immediate throttle response. So the second you need power to pull out, you get it.

And to give you the kind of easy handling you'll need in a dirt bike, the DT3 has a big 21 inch front tire, and five-position adjustable rear shocks that can be fitted to the terrain you're in, and the distance you're going.

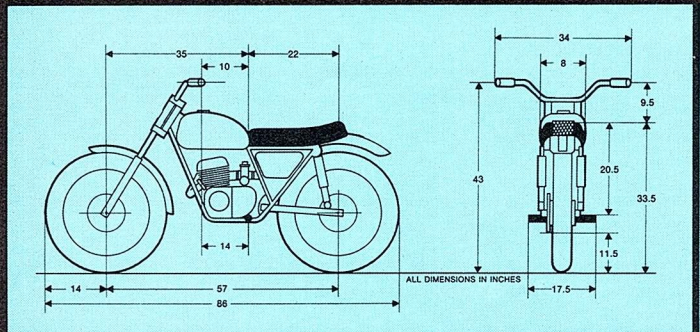
So, if you're looking for a dirt bike that can take it, you've just found it.

Someday, you'll own a Yamaha.

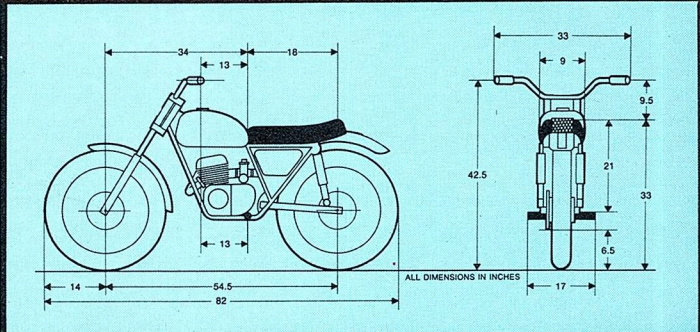
250 MOTOCROSSER COMPARISON

Make & yr. model	Honda 1973	Kawasaki prototype	Suzuki 1973	Yamaha 1973
Model name & no.	CR 250M	F11M	TM 250	MX 250
Vehicle ident. no.	E 1000292	90020	37039	364-005292
Suggested list price	$1145	NA	$910	$1025
ENGINE				
Type	Single cyl. 2-stroke	Single cyl. 2-stroke	Single cyl. 2-stroke	2-stroke reed valve
Displacement	248cc, 15ci	247cc, 15ci	246cc, 15ci	246cc, 15ci
Bore & Stroke	70 x 64.4mm	68 x 68mm	70 x 64mm	70 x 64mm
Horsepower @ rpm	28.8 @ 6000	25.6 @ 6500	25.4 @ 7500	27.3 @ 7000
Compression ratio	12:1	8:1	7.5:1	7.05:1
Lubrication system	pre-mix	pre-mix	Suzuki C.C.I	Autolube
Carburetor	Keihin 34mm	Mikuni 32mm	Mikuni 32mm	Mikuni 30mm
Air filter	foam	foam	replaceable element	wet, foam rubber
Ignition system	magneto	magneto	magneto	magneto
Exhaust	downswept with muffler	downswept with muffler	downswept, no muffler	upswept with muffler
DRIVE TRAIN				
Primary ratio	3.3:1	3.00:1	3.19:1	2.739:1
Clutch	wet, multi-plate	wet, multi-plate	wet, multi-plate	wet, multi-plate
Transmission	left, down for low	left, down for low	left, down for low	left, down for low
Ratios	First, 2.056 -Second, 1.571 -Third, 1.250 -Fourth, 1.037 -Fifth, 0.862	NA	First, 2.416 -Second, 1.800 -Third, 1.277 -Fourth, 1.000 -Fifth, 0.826	First, 2.250 -Second, 1.650 -Third, 1.261 -Fourth, 1.000 -Fifth, 0.793
CHASSIS / SUSPENSION				
Frame	chrome moly	double-loop	single downtube	double-loop
Forks	internal spring, hydraulic damping	internal spring, hydraulic damping	internal spring, hydraulic damping	internal spring, hydraulic damping
Rear shocks	5-way adjustable, finned oil cooler	exposed spring, 3-way adjustable	5-way adjustable	Thermal-flow cooler, 5-way adjustable
Front brake	7″	6″	6″	7″
Rear brake	7″	6½″	7″	8″
Front tire	3.00x21	3.00x21	3.00x21	3.00x21
Rear tire	4.00x18	4.00x18	4.00x18	4.00x18
Rim locks	Yes	Yes	Yes	Yes
WEIGHTS / CAPACITIES				
Actual weight, wet	229 -front 92/rear 137	240 -front 95/rear 145	249 -front 116/rear 133	258 -front 108/rear 150
Fuel tank	2 gallons	1.8 gallons	2.4 gallons	2.4 gallons

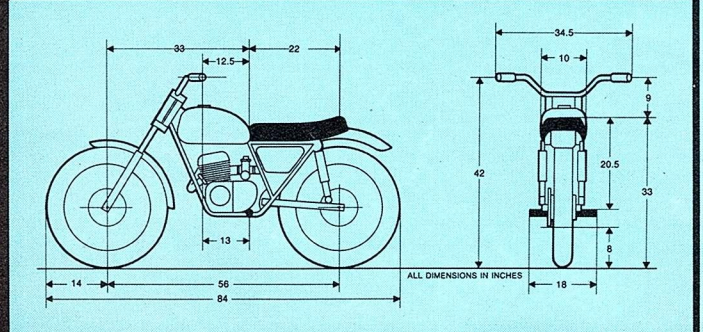
HONDA ELSINORE CR-250M



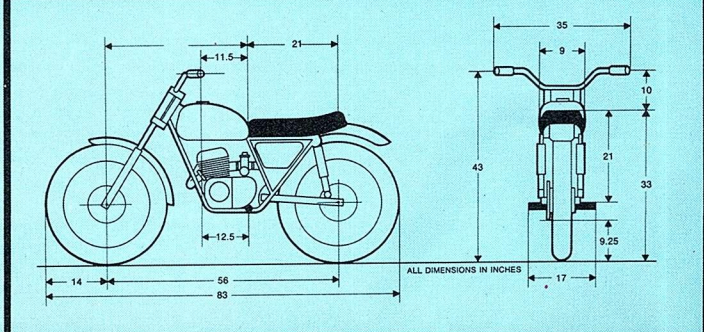
KAWASAKI F-11M



SUZUKI CHAMPION



YAMAHA MX 250

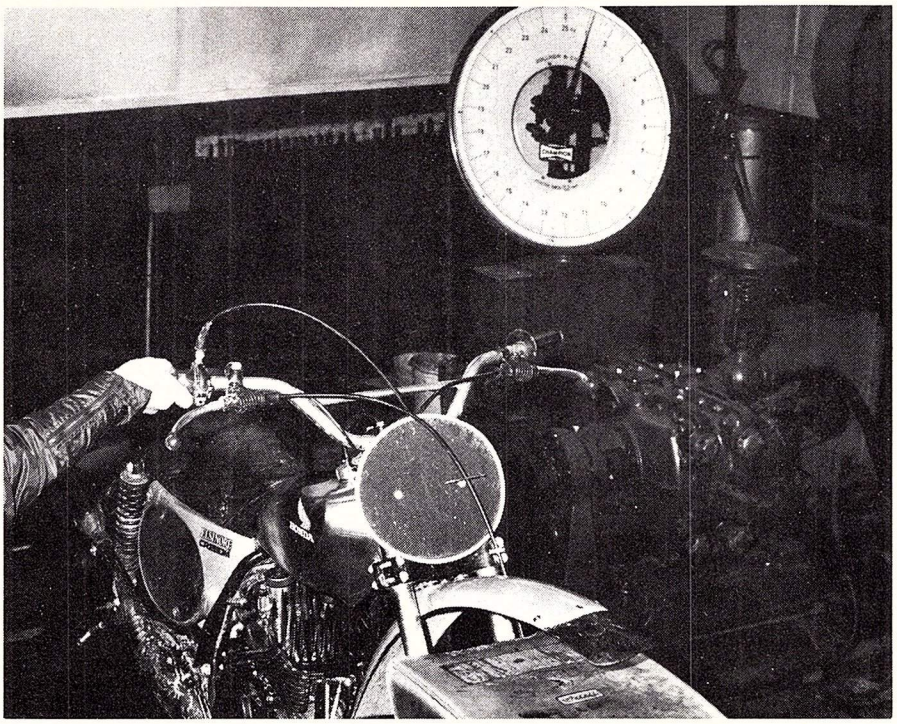


by our testers. As we mentioned earlier, use of the rear brake often caused the engine to stall and therefore the wheel to hop, greatly affecting corner-entering speed. It is something that was somewhat overcome by delicate use of the brake pedal, but one doesn't always find it easy to be delicate on the rear brake. Aside from this one thing, the Yamaha's handling was faultless. It was stable, could be cornered hard without fear of anything strange happening, and would run over rough ground with assurance. We preferred it to all but the Honda, and if some of the weight were shaved off, which would not be really hard, and the rear brake phenomenon straightened out, it would be considerably better. We'd bet that the factory versions are just that.

Suzuki's 250 Champion may well be a replica of the World Championship-winning machine ridden by Robert, but there seems to have been a few things lost in the translation. While it is far from being a bad motorcycle, it lacks some of the precise feel of the Honda and Yamaha and falls short of both in the horsepower department. Again, we are reluctant to say that it handles badly, because it doesn't. It goes where you point it and can be ridden very hard providing the course is relatively smooth. When the going gets rough it can still be ridden fast but lacks the confident feel of the Honda and Yamaha. Could be that this impression would disappear after several races, but the fact is it never did appear with the other two. The Kawasaki shared this feeling of the rider not really being the boss when the bike was leaping around beneath you.

The shortcomings can well be justified by other things. The machine is the least expensive at $910, has oil injection and would not disgrace itself in the hands of a competent rider. Our final impression is that it just does not have the sophistication that it takes to win a moto-cross in today's super-competitive starting fields.

As we were quick to point out, the Kawasaki was a production prototype and the "available for sale" version will have several small but significant changes, none of which we are privileged to know. Based on the way the engine performs on the race course we'd suspect that Kawasaki will leave it alone and concentrate their efforts on refining an already very good chassis. While it too had to knuckle under to the Honda on sheer power, the engine is a smooth free-running unit with good power from the bottom right on up. It's the kind of power that can be dialed on at almost any time with the confidence that the engine will neither bog nor the chassis squirt out from under you. We liked the feeling very much and only wished that the front end would instill as much confidence.



Honda made the biggest numbers on C.R.Axtell's dynamometer, pumping out a healthy 28.8 horsepower at 6500 rpm.

On straightline going or through smooth corners the chassis behaved very well. When the surface changed to ripply bumps it was another matter. The machine seemed reluctant to go where the rider wanted it to go. On occasion it shook its head, causing a loss of time as well as a loss of confidence. Were we in the development business, the first thing we'd look at is a change of a degree or two in the steering head angle. If the thing could be made to steer all the time, we'd rate it a close second to the Honda rather than a step or two behind the Yamaha. However, it was a prototype, and all lasting criticism must be reserved until such time as we've had a chance to try the production version. We included the Kawasaki strictly because it is coming and should not be left out of any comparison test of serious moto-cross machines.

Honda has to be the winner no matter how many categories are included in such a test. It's the lightest, makes the most horsepower and handles as good as any, better than most. In view of the fact that it does have a performance edge on the other three, it does not have to ridden quite so hard to keep up and therefore the rider's job is made easier. We found few handling quirks other than those caused by grabbing too much throttle at the wrong time, and as the laps unreeled we found ourselves adapting to the terrific acceleration and adjusting our riding style to suit. Big handfuls while you're leaned over can get you off even in loose dirt, so we adopted the technique of turning earlier and getting the machine aimed before we pulled the trigger. Others more adept than we will no doubt find equally effective techniques.

With all due respect to the other three, if we had our "ruthers" we'd rather have a Honda. It's the most expensive, but we feel the extra money is well worth it. There's no guarantee that we'd beat all the Yamahas, Suzukis and Kawasakis for the difference between them is not that great. We do feel that with our individual levels of ability each of us would finish higher up more often with the Honda. What other criteria can we use?

But, is the Honda the ultimate? We are convinced that it has the most to offer the serious moto-cross competitor from among the four available Japanese machines. How will it rack up against some of the machinery from Europe? We plan to find out.

Since such a comparison test involves opinions as well as hard facts such as weights, horsepowers, etc., we are going to go through it all again with the European machines before we make any direct comparisons with the Honda. In our August issue we'll have a comparison test to include a Husqvarna, CZ, Maico, Montesa and Bultaco. From this group we'll make our selection of the best moto-crosser available from that part of the world. Once that's done we'll once again place the Honda under fire with an in-depth technical and riding comparison of the best from both worlds. Japan versus Europe. New technology versus old. The outcome should be very revealing. We can hardly wait. ●

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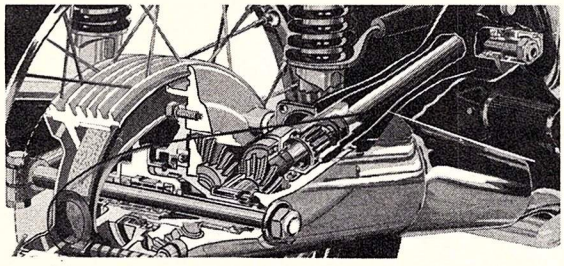
Why settle for a chain? In every way, a shaft is better.

Which is why the Bavarian Motor Works has been building motorcycles with shaft-drive for half a century. It's one of the many reasons our BMW's have set over 200 World Records and won more than 2,000 Gold Medals.

But let's be specific. First off, a shaft is not only the most efficient way to deliver power from the engine to the rear wheel, but it's also more reliable. For example, the chain on an ordinary motorcycle needs constant adjustment. Because every vertical movement of the rear wheel stretches and slackens it.



Not so a shaft. With its internally splined coupling, our shaft is so ingeniously constructed that it can vary its length to adapt itself to the rear wheel movement, never losing its snug fit. No reason to tinker with it, ever.

What's more, chains can break. And they usually do it when you're miles from the nearest repair shop.

BMW's shaft, on the other hand, is practically indestructible. To take the immense power output, it's forged in one piece of high-tensile steel. It'll last the life of your BMW.

The BMW drive-shaft is also clean. It won't stripe you with oil the way a chain will. That's because BMW's shaft is fully enclosed inside the right rear swing arm, away from grit, dirt and corrosion.

And our drive-shaft is silent. Turns noiselessly in an oil bath. One of the reasons why BMW is the quietest motorcycle anywhere.

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Another point. Since our cylinders face one another and the pistons move simultaneously in opposite directions, both in and then both out, the force that causes vibrations is minimized. Which not only means longer engine life, but also lets you ride longer without getting tired.

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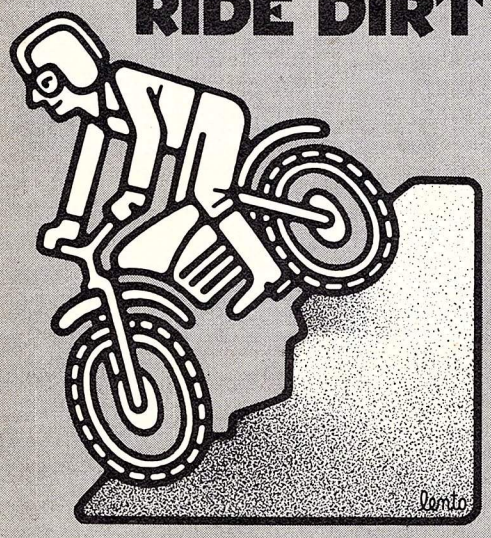
HOW TO RIDE DIRT



with Malcolm Smith

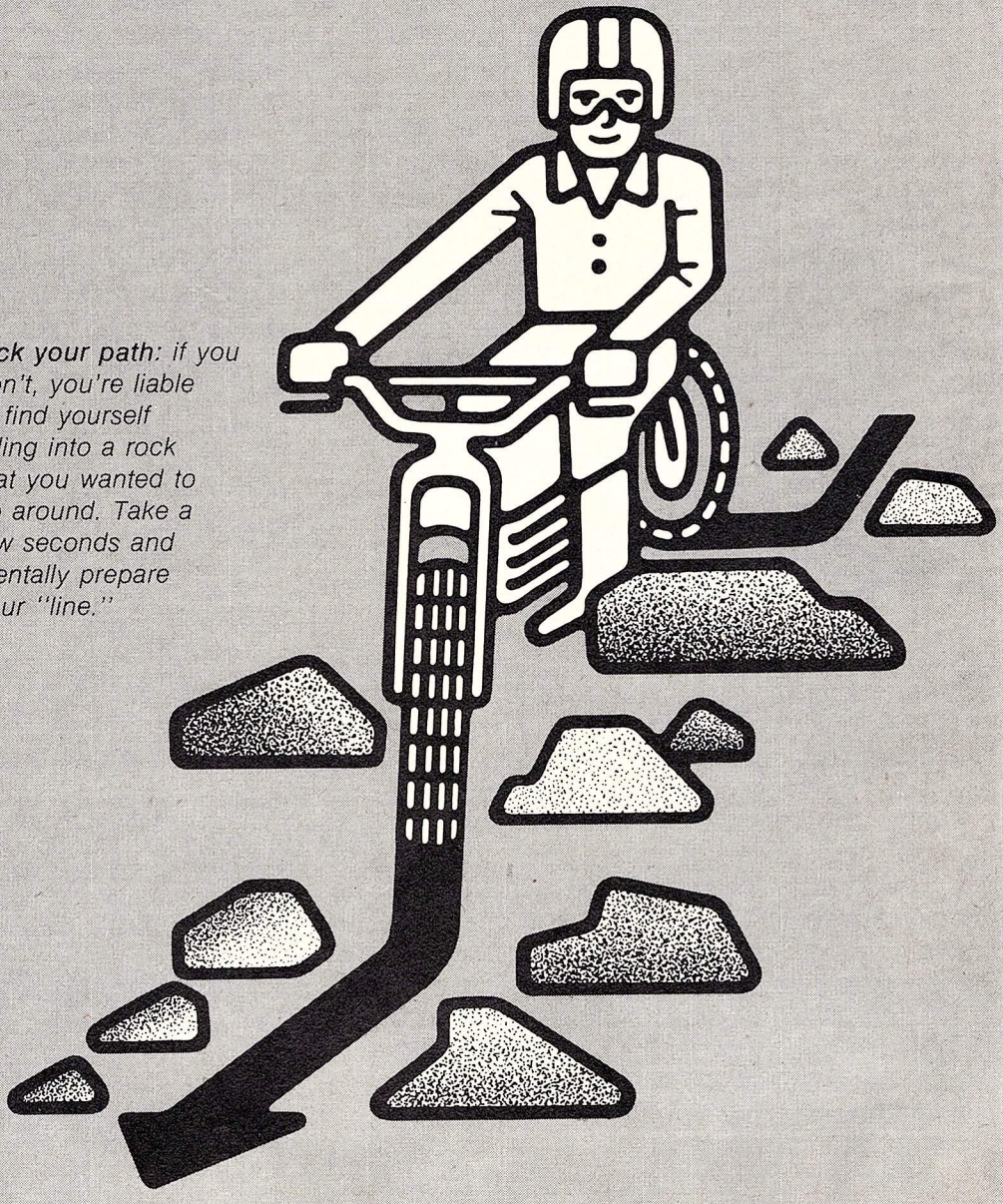
Part VI: Surviving in rocks.

While it's a pretty sure bet that few people ever go out of their way to find rock covered terrain to ride in, through or over, it's just as sure a bet that sooner or later the trail ahead offers no choice. You'll ride through rocks or turn around and head back the way you came. When that inevitable time arrives, there are several things to keep in mind and several techniques worth remembering.

One thing is the fact that riding through rocks is one of the best means of improving your skills. It requires a good deal of balance and agility, both of which will be improved by the continued practice. Plus, the very fact of riding through such rough going will act as physical exercise, something that all of us need to some degree or another.

When rocks get over softball size they become potential hazards. Rocks under that approximate size do not have such a harmful effect on steering and in many cases will move out of the way when contacted by the wheels. But when they are large they present a serious obstacle. An obstacle that can either cause you to fall by upsetting steering control or, in some cases, by moving while your wheel is trying to pass over them.

Although you'll generally ride through rocks at a crawling pace, things sure happen fast. Therefore, it's a good idea to take the time to plot your exact course before starting and deciding just what riding technique you'll use. The stand-up, feet-on-the-pegs style might be the classic way the trials riders do it, but more than once we've seen the best of them peddle through as though it was their first time on a motorcycle. The main reason for this is the speed at which you can lose



Pick your path: *if you don't, you're liable to find yourself riding into a rock that you wanted to go around. Take a few seconds and mentally prepare your "line."*

ILLUSTRATIONS BY PAT LENTO

control of the machine. Sometimes it can be so fast that there's not even time to get a foot on the ground before you lose it. If we have to choose between the two ways of approaching the problem, we'd vote for the safety of sitting on the seat with both feet used as outriggers, although trials-style is probably more fun.

The path you select will depend on many things. Be sure that all the rocks on your chosen trail are passable. You'll find yourself in trouble if you have to turn around or alter your direction once you've started. Try and determine that they are all very solid so that your wheels won't upset one of them and with it your control of the machine. If there are any of the flat surface variety try and ride right over the middle since if it is not fully supported, it too may tip and affect your balance.

Whenever possible, try to skirt a rock or two and get the wheels on dry, tractable ground. This is particularly advisable if the rocks and/or the tires are wet. There's nothing known to man that's slipperier than a wet rock. Often there will be an area off to one side of a rock-strewn gully that can be used, even if only for a few feet. Keep an eye out for such alternatives to riding strictly through the rocks for it can make life a lot easier.

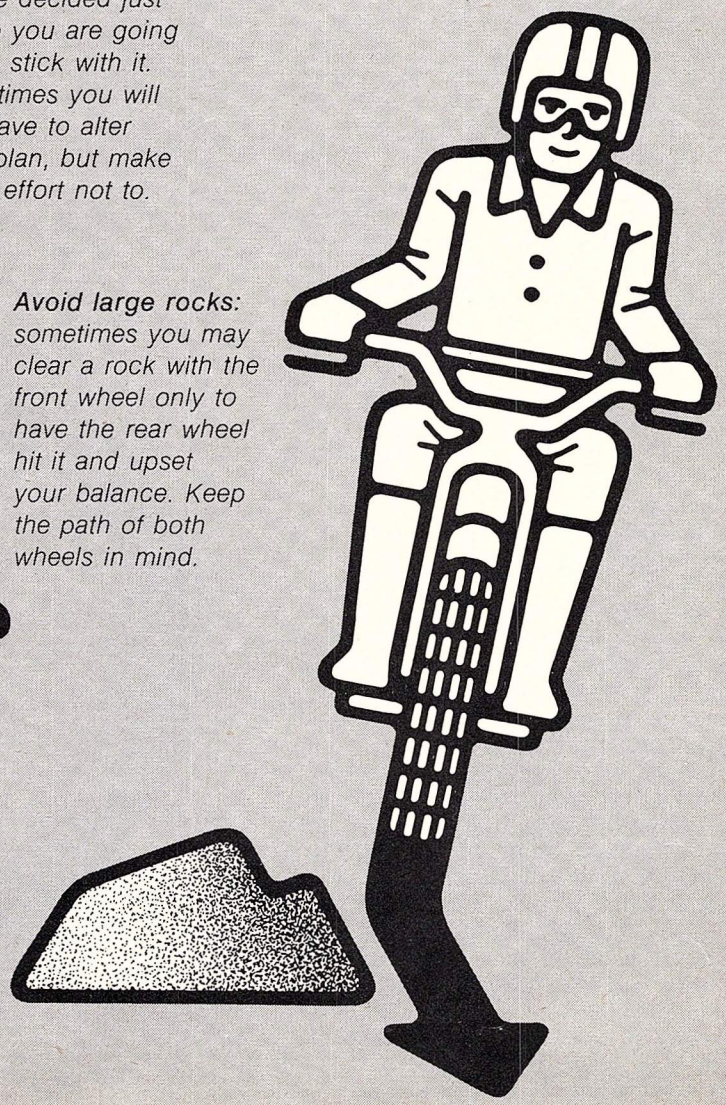
As you approach any rocky section, force your body to relax. The riding will be exhausting enough without fighting every movement of the machine with tense muscles. To a limited degree, let the machine have its head, but still keep your eye on the predetermined path that you wish to follow. Pay particularly close attention to any rock or other obstacle that may strike the side of the machine or footpegs and upset the balance you've worked so hard to maintain.

If extended periods of rock riding are anticipated, it might be a good idea to drop tire pressures a few pounds. This allows more of a contact area and therefore more, but not usually enough, traction. How much air you let out will depend on the other conditions of the day. Don't drop both tires to 8 or 10 pounds if you have to do some high-speed riding later in the day just to get back to civilization.

With all these things in mind you should be ready to ride through the roughest of rocks. Ride slowly, concentrate on where you're going and be on constant alert for the unexpected. If it presents itself, have both feet ready to support you and the machine. Those rocks can hurt even if you're going only five mph. •

Ride your line: *once you've decided just where you are going to go, stick with it. Sometimes you will just have to alter your plan, but make every effort not to.*

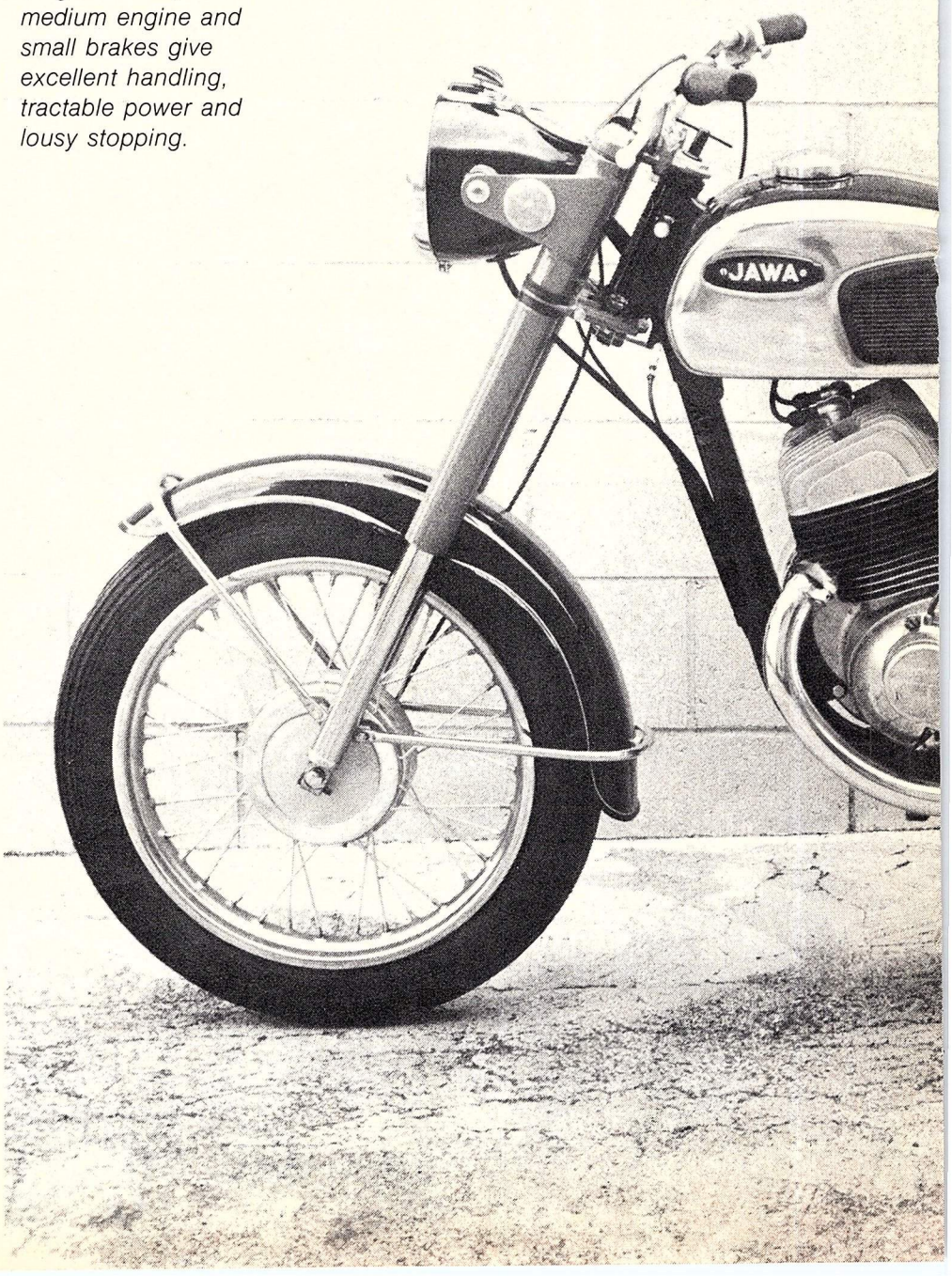
Avoid large rocks: *sometimes you may clear a rock with the front wheel only to have the rear wheel hit it and upset your balance. Keep the path of both wheels in mind.*



Motorcyclist Test
by John T. Jo

JAWA 350

Large chassis, medium engine and small brakes give excellent handling, tractable power and lousy stopping.



Blazing quarter-mile acceleration, fadeless super-grip brakes, dazzling speed in the century bracket and nimble sure-footed handling are the ideal conglomerate qualities gung-ho motorcyclists eternally dream of in their next street shotgun... as well as phenomenal gas mileage, non-existant touring vibrations, snazzy good looks and low bucks per cc price tag. A bike that scores high in each of the eight categories mentioned, will, of course, be in great demand by many two-wheel enthusiasts and have a strong reason for being, yet all machines cannot be approved nor disapproved by these criteria alone.

Sometimes there comes a bike that scores just adequately in a majority of these divisions, but comes on so strong in its long suits that it deserves a qualified niche in today's plentiful *buyer's* marketplace. The 350cc Jawa Californian two-stroke street twin, with some reservations, is such a bike. For it has a host of novel attributes that are not gimmicks but proven features that work positively to the rider's advantage and enhance the Czechoslovakian-made roadster's other plus marks to make it both a very pleasureable and practical mount to operate.

However, before we verbalize on the 350 Jawa's highlights, it is imperative that we cover its "some reservations" for they all pertain to rider safety which should not be compromised. Foremost is its front single-leading shoe, 7½-inch drum imposter that has all the qualities of a mild off-road trail brake, including the inability to even border on locking the front wheel so that an emergency stop can be made upon squeezing the front brake lever to its limit. Spooky! It's a good thing that the rear 7½-inch single-leading shoe binder is up to snuff, progressively whoaing with good feel right up to a controllable rear wheel lock. Braking system evaluation? Front: yipes, grit your teeth!; rear: thank goodness!

Another negative area of the Jawa is its lighting system which features a low beam so weak and dispersed it can't even cast a shadow during an eclipse. However, like the braking system, its high beam counterpart is just the opposite in effectiveness, brilliantly clearing the pavement at night so that 40 mph inter city zig-zags and 65 mph freeway treks are capable with safety. Be sure to re-aim the headlight nacelle a tad down though, if you buy a Jawa, so as not to blind oncoming traffic when using the "high pattern" as your normal driving beam. Also on the subject of lighting, the taillight did not flash a braking signal to following motorists, due to a malfunction in the rear brake/taillight switch circuit after a rookie 26 miles. Nor was there incorporated a front brake/taillight combo which is mandantory in some states and definitely a major safety factor. Jawa, are you listening?

And lastly in the let-there-be-light shortcomings is the matter of speedometer dial illumination; there wasn't any! On one midnight road test excursion we saw the light, or more aptly, the lack of it, and how important it is to rider safety. Normally, all one would have to do to check road speed at night is to *blink* downward and scan the lit speedo, but in our test bike's case a prolonged stare was necessary, a hazard in the event of a pothole or swerving car. Jawa are you still listening?

Gollytooterootis, what more is wrong with the 350 Californian? Only one major thing, its horn. Decibel-wise, the Jawa's Banshee-throated wailer is superb; unfortunately, it went out of business at the 93-mile mark on the odometer due to a short somewhere in the circuit. To those of you who think an inaudible horn is nothing to worry about, picture this: you're tooling down a side street when a car suddenly juts out between two parked cars. You push the horn button to warn and nothing, except for the look of mild terror inside your Bell Star. It happened on the Jawa.

Before going on, all the problems that cropped up during testing should be put in proper perspective at this moment. Simply stated: all can be easily

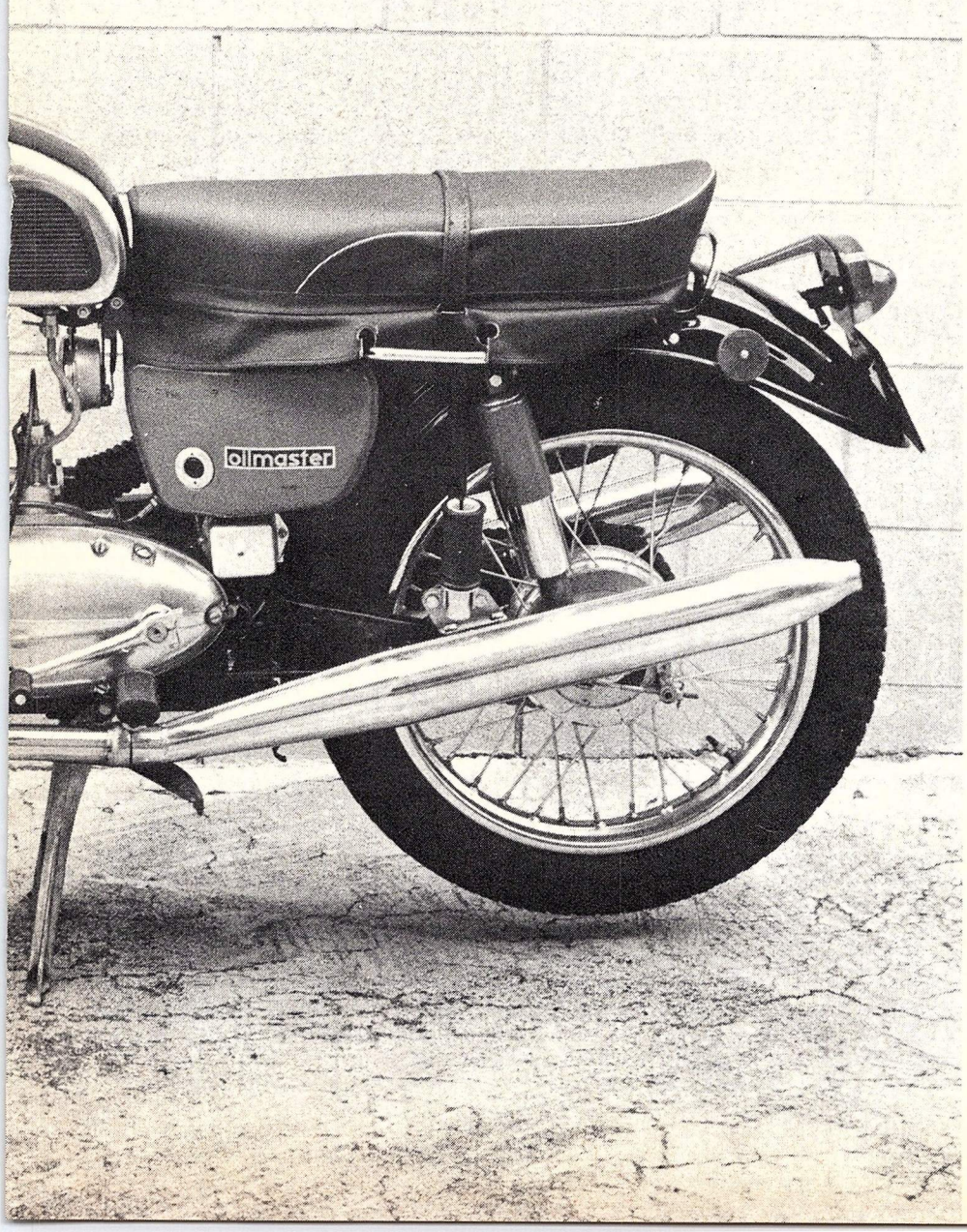
remedied at the factory via better quality control measures and minor production line modifications, except for the front brake deficiency—a new dual-leading shoe or single disc is needed there. Enough digression, let's get on with Jawa's good stuff—there's a plenty!

The first thing that impresses is the *lugger.* Ahhh the engine; ka-pocka-ta, ka-pocka-ta, ka-pocka-ta, Walter Mitty's dream machine has nothing on this slow-turning, silky 180-degree-firing, piston-ported parallel twin which generates gobs of tractable torque and an untemperamental claimed 28 ponies at 5250 rpm. It's good for 78 mph sitting bolt upright and 86 in maximum speed crouch. And, we might add, it should continue to do so for a long long time; peek inside the vertically split crankcases and you'll see why.

Cases apart, a bulletproof 28-pound crankshaft assembly greets the eye, featuring two 180-degree opposed crankpin throws, hefty left-center-and-right ball main bearings, and four heavyweight full-circle flywheels. It's these massive inertia-storing flywheels, plus the 350 Jawa's undersquare 58 x 65mm bore/stroke dimensions (actual displacement is 344cc) and mild single intake, double transfer and single bridged-exhaust port cylinder design that gives this durable mill its excellent tick-over idle. Designed to favor low- and mid-range power, there's no need to twirl a jillion R's to obtain good acceleration with its smooth, broad powerband. Adding to engine longevity is a caged needle race at each connecting-rod's big end and a bronze-bushed plain bearing at each con-rod's small end. Also, slots are cut in each end of both rods for better oil mist penetration, while a stout circlip-retained tubular steel wrist pin links a low-expansion aluminum piston (which sports three conventional cast iron rings) to each rod's top side. Onward and upward.

CALIFORNIAN

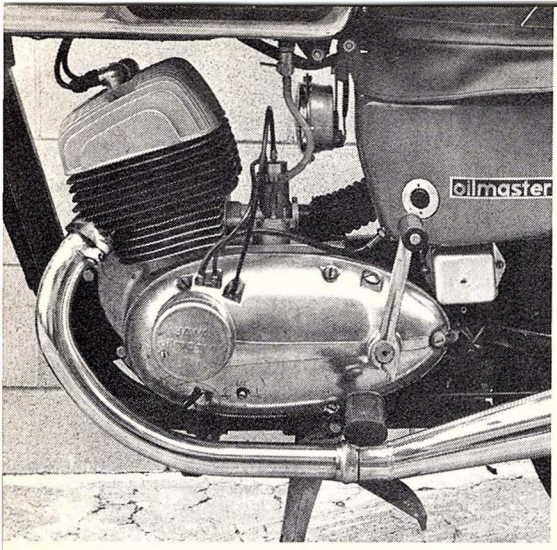
PHOTOGRAPHY BY JOHN T. JO

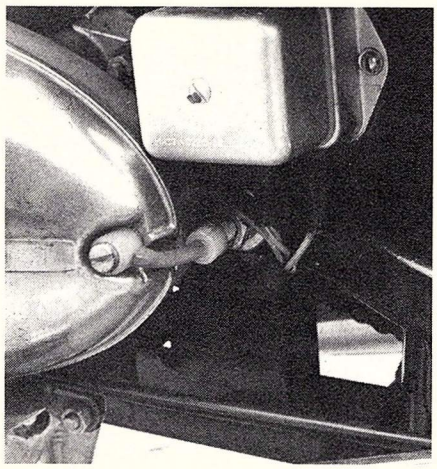


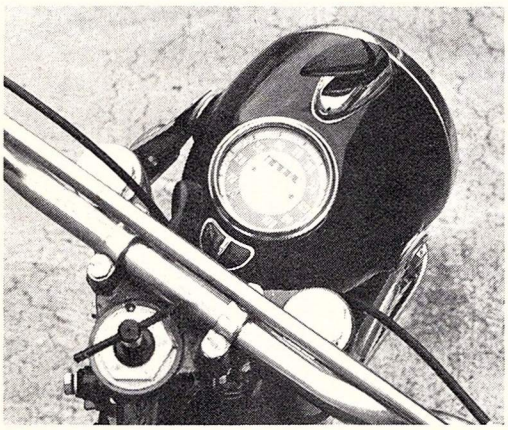
Besides having two separate steel alloy cylinders with integral cooling fins, the 350 utilizes a pair of cast aluminum 10:1 hemi-heads which allow Regular gas usage, and one unfinicky 26mm Jikov side-float carburetor. These top-end components support Jawa's original design intent. Rather than striving for super-high motor output—and the resultant peakier horsepower curve and shorter component life that goes with it—Jawa engineers opted for broad engine flexibility, dependability and low operational cost as their commitments.

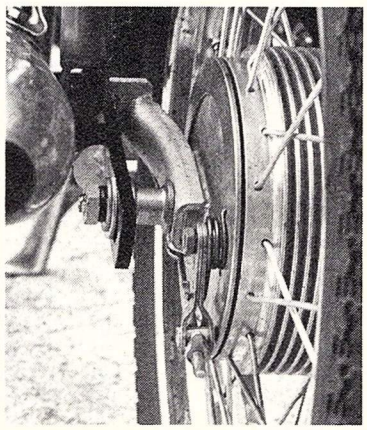
Did they achieve their goals? During our test stint, the rugged 344cc powerplant steadily torqued us along Pacific Highway at 45 per, slowing to 30 through rain-sprinkled little coast towns along the way, zipping to 65 when hitting maximum legal speed stretches—all in top gear with nary a downshift. As for gas mileage, how does 52 miles per gallon while cruising at 45, or 41 mpg while blasting constantly over 70 on the interstates grab your wallet? Tis true. Gas tank capacity? Four big ones. You can plan on riding about 140 miles on a fresh tank before switching to the Californian's half-gallon reserve—which should be good for a safe 20 miles. Touring range per gas fill can go as high as 200 miles, depending on how you twist the throttle. Also, the Jawa's three-quart automatic oil injection tank holds enough 30-weight for 900-1200 miles. Amazing!

A touch concerning the Jawa 350's slim engine width is apropos here. Instead of lining up transfer ports in a straight line across the width of the engine—which takes up more space—the transfer ports are placed at approximately 45-degree angles to a line drawn between the two cylinders and running fore and aft. Great Compact Crankcases, the Jawa 350's present configuration dates back to at least 1967; so what else is new in keeping case width to a minimum? On the crankshaft's right side reposes dual breaker points and a six-volt, 45-watt direct current generator—which charges a six-volt 15-amp-hour wet battery stored under the right side panel—while on the crank's left end spins a 27-tooth primary drive sprocket. This sprocket, in









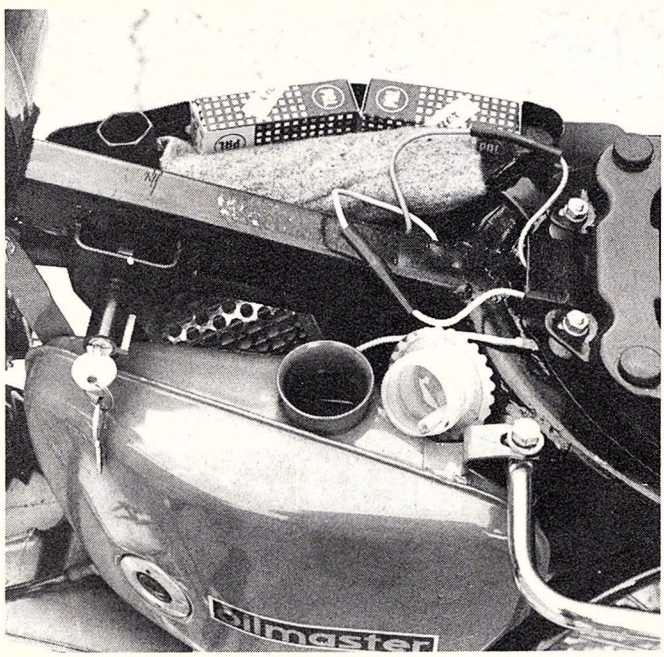
Top: Left side shift lever and kick start pedal are one and the same. Note oil line to pump and throttle cable to carburetor.

Top right: Ingenious automatic swingarm oiler is below square voltage regulator box.

Above: Jawa's bulky ignition switch key and charge/neutral lights below speedo dial are evident here.

Middle right: Just loosen that axle nut, remove spacers and presto—the quick change wheel is free!

Right: Seat lock, good sealing oil cap and too small tool kit compartment are under 34-inch-high comfy seat.



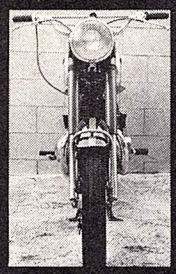
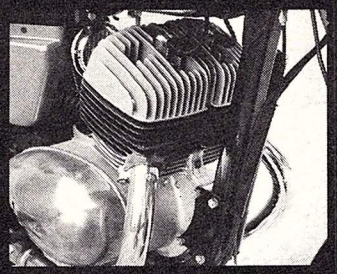
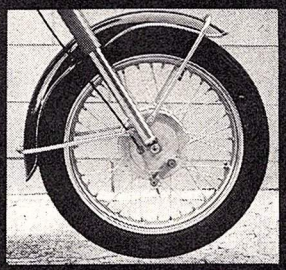
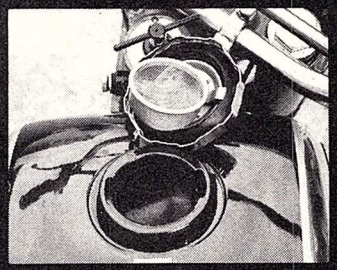
turn, rotates a 45-tooth clutch sprocket and drum via an oil-bathed ⅜ x ⅜-inch single-row roller chain.

Power transmission then flows through a wet, five-steel/five-cork friction plate clutch assembly on through a four-speed constant-mesh transmission—with internal gear ratios of 2.00, 1.25, 1.11 and 1.00, for first, second, third and top gear respectively—to a 17-tooth right side countershaft sprocket. Final drive is 5/16 x ½-inch single-row chain and a 46-tooth driven sprocket that transmits power to the rear wheel by way of a rubber-cushioned hub.

All the rear wheel twist in the world is not any good unless the chassis can handle it and get all available foot-pounds on the ground. In the Jawa 350's case, its robust, single-downtube, D-shaped frame, of 1½ x 1-inch rectangular tubing, keeps the steering neck and swingarm pivot planes in rigid trueness to each other. Beefy reinforcement gussets at the frame's neck and pivot make doubly sure no shakes will snake in. To further ensure top-flight handling, Jawa's swingarm assembly is blessed with extra potential life via an automatic pivot bearing oiler piped from the transmission's top left side. The oiler uses excess gearbox oil vent vapor to lube the heavy-duty bronze swingarm bushings. Ingenious!

After all Jawa's extra efforts to build a sound chassis foundation for the 350 Californian, wouldn't it be a shame if the rest of the suspension components turned out to be a bummer? No Way! With nearly six inches of travel and no topping or bottoming, the 350's front telescopic forks responded excellently to minor surface ripples or over-protruding railroad tracks from the very beginning, while its rear suspension counterpart, with 2½ inches of movement and coiled spring over shock, managed to match front fork action. At no time did we feel a need for any more, or less, damping or springing, front or rear. Ditto for the friction steering damper atop the fork crown; it stayed in the loose "off" position. With its high ground clearance and 55-inch wheelbase, the chassis displayed absolute neutral steering characteristics with nary a bobble, weave or graunching scrape when heeled hard over on the roundy-round stuff. Both Barum super soft compound tires kept handling pace.

What more could we ask for? A nice balmy day with a cool ocean breeze? An okay to road test this whiz up the coast by Boss Editor Bob? We got it. Here's how it went: The following morning, after packing two precautionary spark plugs in the bike's tool tray (we never had a need to use them as the dandy Jawa engine fouled not from odometer mile one), we were ready to cold start. Turn the left-side-mounted fuel petcock on, tickle the carb till it overflows, push in the shift lever to case and swing up to use as the primary kick start pedal, keep throttle grip closed and kick easy. It's like kicking over a 125cc single. It starts first kick, hot or cold. Pull in the clutch, shift up for low, give a tad throttle and feed a little clutch...you're off. Upshift or downshift to your heart's content, you don't have to manually declutch it; a semi-automatic clutch linkage, connected to the left side shift pedal, takes care of it for you! The only time you need to squeeze the handlebar-mounted lever is when you come to a complete stop. "...Ka-pocka-ta, ka-pocka-ta, ka-pocka-ta, the 350 Californian's harsh exhaust note ripped the air—if only it had a decent front brake and electrics to go along with its superb handling and impeccable engine manners...Walter Mitty would have liked that!" •

Jawa 350 Californian

Vehicle ident. no. • 003671
Engine serial no. • 003902
Suggested list price • $735
Factory warranty • 4 months/4000 miles

ENGINE

Type • 2-cyl., piston port, two-stroke
Displacement • 344cc
Bore x stroke • 58x65mm
Claimed hp @ rpm • 28 @ 5250
Compression ratio • 10:1
Lubrication system • Auto oil injection
Carburetor • 26mm Jikov side float
Air filter • Replaceable paper element
Ignition system • Dual points, coil, condenser
Electrical system • 6V battery, generator, voltage regulator
Starting • Primary kick start
Exhaust • 2 downswept pipes w/upswept mufflers

DRIVE TRAIN

Primary/ratio • Chain/1.66:1
Clutch • Wet, 5 steel/5 cork plates
Transmission/shift • 4-speed constant mesh/left, up for low
Ratios • 2.00, 1.25, 1.12, 1.00
Final drive/size • Chain / 5/16x½
Sprocket teeth, fr./rr/ratio • 17/46/2.70
Overall ratios. • 1st, 14.3; 2nd, 8.9; 3rd, 6.4; 4th, 4.5

CHASSIS AND SUSPENSION

Frame • Single rectangular downtube-cradle-toptube; rear sub-frame

CHASSIS AND SUSPENSION

Forks • Telescopic w/internal springs and oil damping
Rear shocks • Oil-damped w/coil spring over shock
Front brake • 7½", single leading shoe
Rear brake • 7½", single leading shoe
Front tire • 3.25x18 Barum ribbed
Rear tire • 3.50x18 Barum universal

WEIGHTS AND CAPACITIES

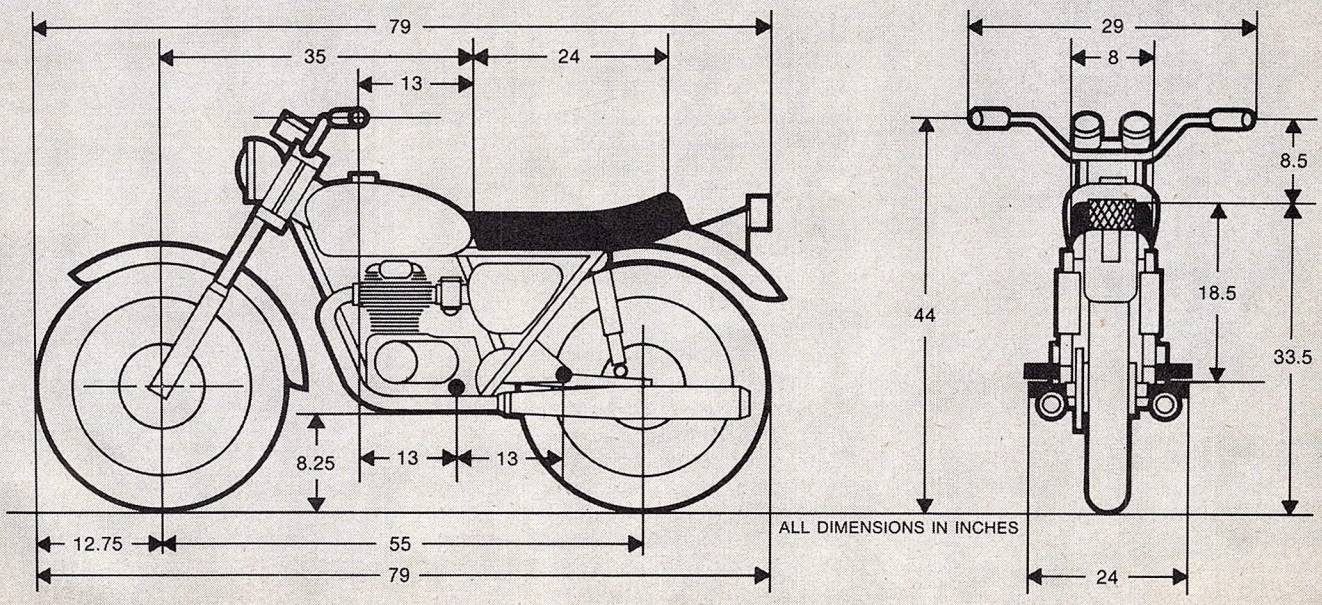
Actual weight, wet, unladen total • 338 lbs.
front/rear • 151/187
fuel • 4 gals.
engine oil • 2.8 qts. 2/s 30 wt.
gearbox oil • .9 qt. SAE 40

STANDARD EQUIPMENT

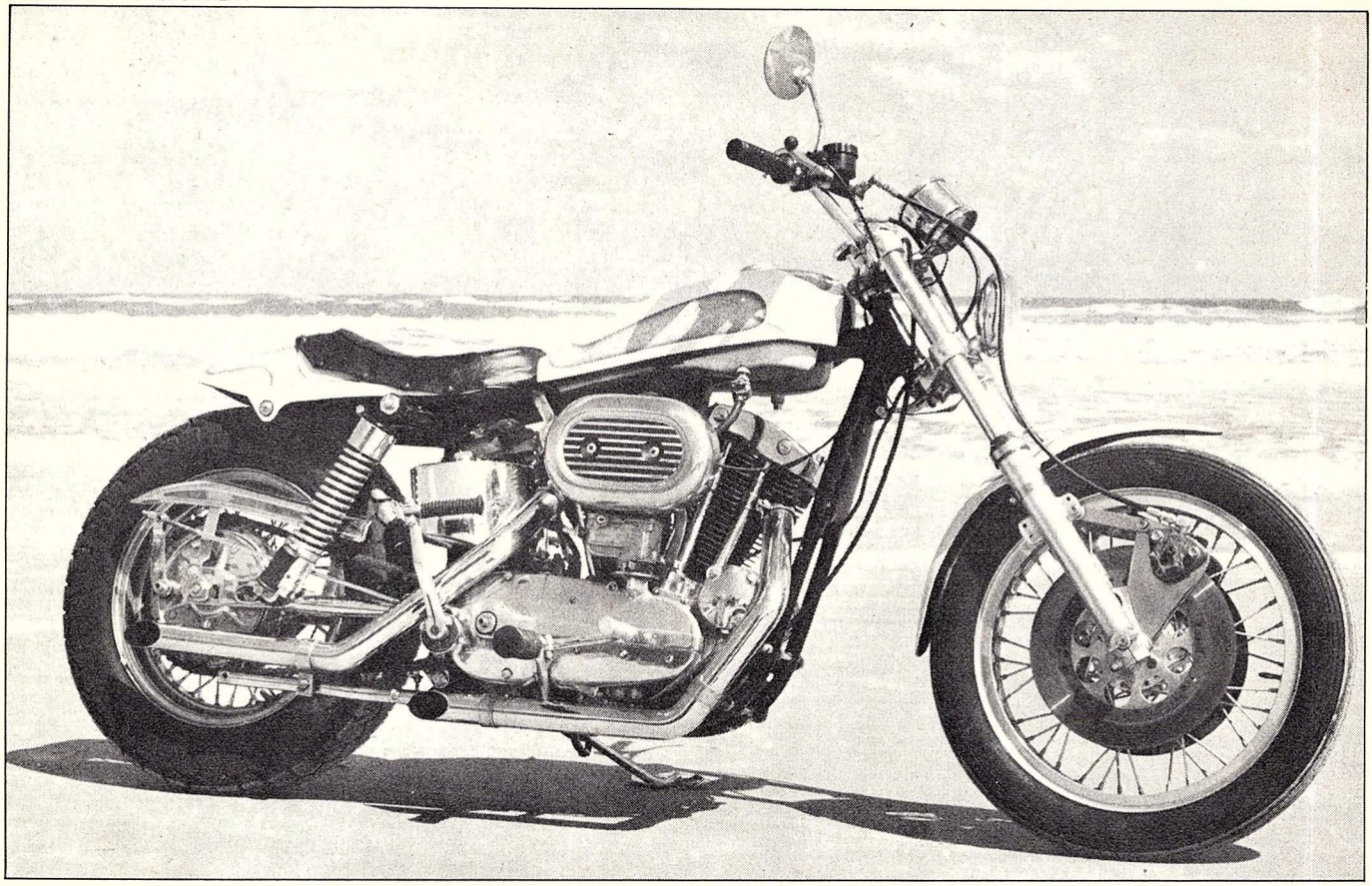
Speedometer • 100 mph dial w/shift lines at 25, 38, 55 mph
Indicator lights • Red charge light, green neutral light
Controls left hand • Horn, hi/low beam, clutch
right hand • Throttle, throttle tensioner, front brake
Locks • Seat, prov. for fork padlock
Miscellaneous • 3-way key switch on headlight nacelle, friction steering damper, automatic swingarm oiler

PERFORMANCE

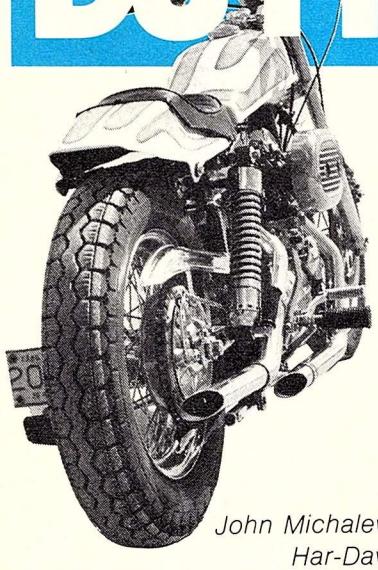
Top speed indicated • 78 mph (upright) 86 mph (crouched)
Gas mileage • 41 mph min., 52 mpg max., 44 mpg avg.
Gas tank range • 160-200 miles
Oil tank range • 900-1200 miles



PHOTOGRAPHY BY JACK HERN

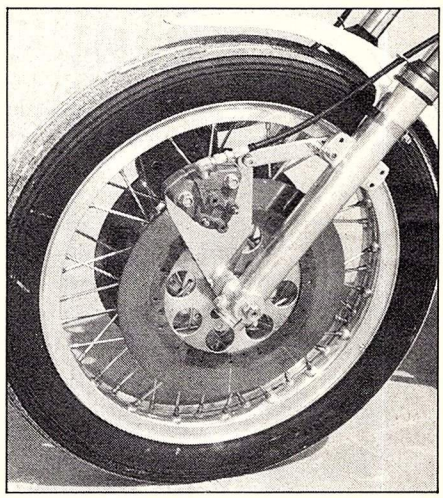


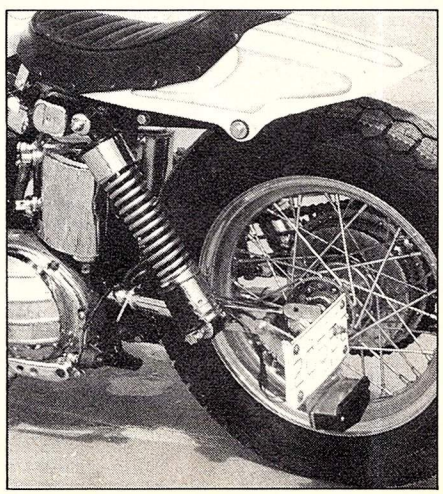
HEAVY DUTY



John Michalewitz's Har-Dav is a Chi-Town hustler.

Three months of loving labor combined with about $2500 made John Michalewitz $500 wrecked '65 Harley CH over into a truly custom machine. To accentuate the long low look, John raked the head post back ⅜-inch. A paneled spiderweb paint job on the racy XR-750 tank and rear fender added to the sleek lines. The front end combines Ceriani Moto-X forks, a Dunstall fender and a R-W Specialties dual-disc brake with an 18-inch alloy wheel. A Honda master cylinder is used to actuate the Kelsey Hayes brake caliper. Instrumentation consists of a speedometer only. A bike bell serves as a horn (Chicago legal?) and the mirror is mounted on the right. Maybe John only rides in the fast lane? The .020-inch-over, 900cc engine got a big lift too, via Chrysler hemi valves, lightened rockers and Sifton pushrods working off P-B cams against a 10:1 compression ratio. A modified Tillotson carburetor supplies the go-juice via the stock Harley air cleaner system. The mighty Harley muscle is routed to the chain through a close-ratio gearbox, then back to a 16-inch rear wheel and brake from a Harley 74. A pair of 2-inch drag pipes and a liberal dose of chrome plate highlight this semi chopper that might better be called the Chi-Town hauler instead of hustler. John is a Volkswagen mechanic by trade and has been commuting to work on this hauler for 5½ years.





Let the neat times roll.

On the new Harley-Davidson X-90.

Imagine yourself trucking along a forest reserve trail, with your wheels churning and a smile on your face a mile wide.

'Cause you know you and your Harley-Davidson X-90 are gonna have some really neat times.

Driving and twisting, feeling and whipping your way through ankle deep streams.

So run tell your dad that you'd like a 90cc, 4-speed, oil-injected, fold-down handlebar experience.

Then get it on.

Harley-Davidson,
Milwaukee, Wisconsin 53201
Member Motorcycle Industry Council

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Harley-Davidson

Harley-Davidson X-90.

The Great American Freedom Machine.

This is the latest version of a little number that's been around for a number of years: the Kawasaki F-7 175 enduro.

Which means it's thoroughly de-bugged. Just ask any of the many thousands of owners.

The engine is a two-stroke rotary disc valve job that's a real stump puller at the bottom end. It delivers 18 hp. at 7,500 rpm. This moves you right along at freeway limits.

Add to this Capacitor Discharge Ignition that puts an end to points and gets rid of a major cause of power loss and you've got quite a powerplant.

Fact is, the F-7 has the best power-to-weight ratio in its displacement class.

Transmission is the well proven and easy to shift Kawasaki 5-speed.

Some of the other good things include adjustable Hatta forks, an automatic vacuum fuel valve, an engine kill button, a highly efficient spark arrestor.

On or off the road, the F-7 175 tends to act and feel like a much larger machine.

To sum up: the Kawasaki F-7 is heavy on experience, heavy on features, heavy on looks, but not heavy to handle.

Look up your Kawasaki dealer in the Yellow Pages. Prove it for yourself.

The enduro. Proved

Kawasaki F-7 175

Engine type	2-stroke, single cylinder, rotary disc valve, air-cooled
Displacement	174cc
Bore & stroke	61.5 x 58.8mm
Ignition system	Magneto CDI
Max. horsepower (SAE J245)	18/7,500 rpm
Max. torque	13.0 ft. lbs./7000 rpm
Top speed	75 mph
S.S. ¼ mile	16.2 sec.
Climbing ability	36°
Transmission	5 speed/1-N-2-3-4-5
Gear ratios	1st-2.667; 2nd-1.750; 3rd-1.200; 4th-0.913; 5th-0.720
Final reduction ratio	3.571 (14/50)
Overall drive ratio	8.035
Front suspension	Adjustable Hatta fork
Rear suspension	5-way adjustable shocks
Tire type	Trials
Rake/trail	61° / 4.37 in.
Braking distance	33 ft. at 31 mph
Overall length	80.5 in.
Overall width	33.5 in.
Overall height	43 in.
Wheelbase	52 in.
Ground clearance	10 in.
Weight	233 lbs.

Come out ahead on a Kawasaki.

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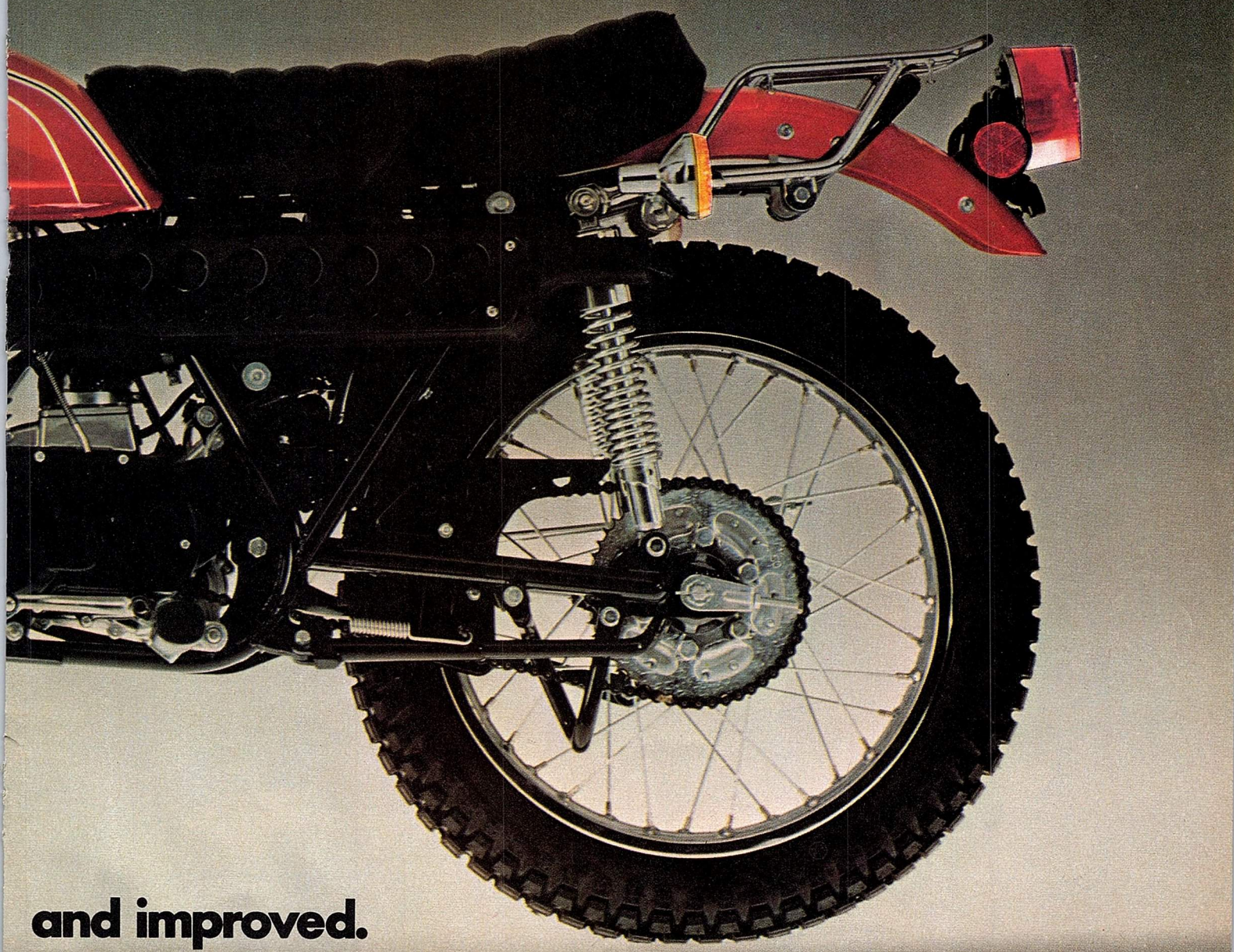
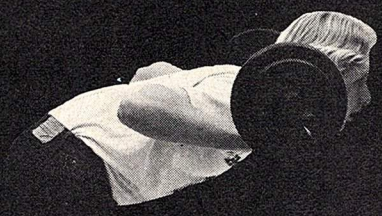


and improved.

SHAPE UP YOUR BODY

Part V: Exercises for strengthening the back muscles

1 ***With a 25-30-pound weight-lifting bar supported on the shoulders, stand with legs apart and knees slightly bent.***



2 ***Bend forward from the waist and support the weight of the bar. Straighten up and repeat.***

3 ***Using a stool and a foot support such as a wall, lay with the thighs across the stool and feet back against wall.***

4 ***Lift the upper part of the body upwards trying to reach hands as high as possible.***

5 ***Lying on the stomach with feet outstretched, extend the arms to hold a weight at the floor level.***

6 ***Lift the weight up onto the stool, extending the upper body and arms.***

PHOTOGRAPHY BY ERIC RICKMAN

DAYTONA 200.....*continued from page 28*

flag came out. Saarinen and Carruthers had good leads, but Smith, last year's lightweight winner, and Evans, the Junior winner at Laconia last year, were going at it. Side by side they started the last lap, Smith's Vesco Yamaha an even match for Evans's Dinesen-tuned version. With their tuners reputations, a win last year for Dinesen and a number of high place finishes for Vesco, it was possible that one or the other had something up his sleeve. Well, it should have been a pint of gas, because halfway around the last lap Smith's machine sputtered to a stop, giving Evans an easy third. This made the second year that a Dinesen Yamaha sat in Victory Lane and the third time the Evans family had been there. Young Jim's dad, Don, had won the Amateur event at Daytona in 1949 and 1950.

The final tally had Yamaha in the first three spots and who else but Dick Mann in fourth.Persistence had paid off for the double winner. Out of the first ten, six were Yamahas. There was the Triumph of Mann, two Hondas, ridden by Sumiya and McLaughlin, and the lone Emde Suzuki. The dazzling speed of the Hondas was not in evidence on race day due to an unfortunate oil leak that kept their rear tires nice and slippery, the result of a last minute switch to wider Dunlops that cut through an engine breather hose.

The factories had been out in full force and yet three private runners had made a shambles of their strategy. Evans beat all but two of them; the fast-rising Conrad Urbanowski slipped through to a fine fifth place; and Britisher Mick Grant marked his first visit to Daytona with an 8th place finish, also on a Yamaha. The big-bucks guys once again had to take a back seat to a bunch of $2000 over-the-counter Yamahas with half their displacement. There's a lesson there somewhere. We wonder if it will sink in by the time Daytona 1974 rolls around? With his $15,000 winnings, the biggest race purse of his life, Saarinen could buy seven new scooters and have a grand left over for return air fare. •

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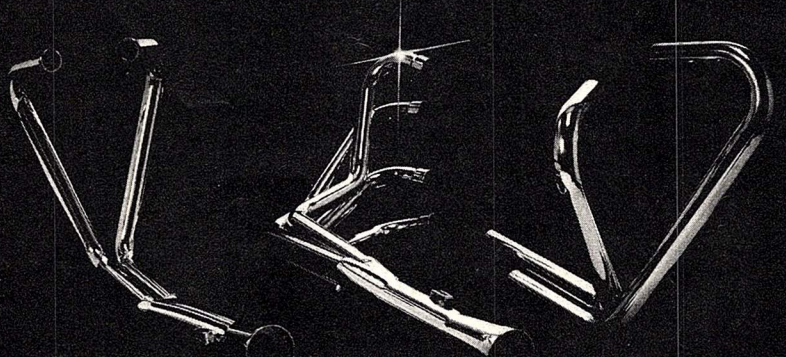
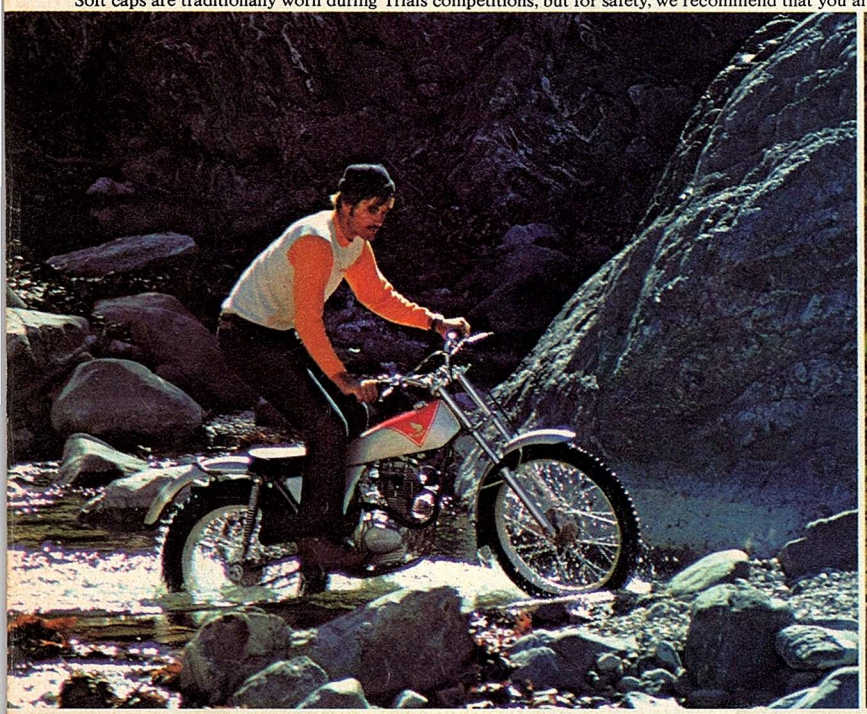


SANDERSON RACING HEADERS
1379 North Carolan, Burlingame, CA 94010 (415) 348-3883

Honda Trials 125.
Precision balance for Trials

Soft caps are traditionally worn during Trials competitions, but for safety, we recommend that you always wear a helmet and eye protection and check the local laws before you ride.



and Trails.

Trials is the chess of motorcycling. It takes a rider of great skill and patience. It requires a bike with precision balance and dependable torque at very low speeds. Such a bike is the remarkable new Honda Trials 125.

Trail riding is one form of motorcycling everyone can enjoy. It takes a rider with a love and respect for the back country. It requires a bike that's almost as agile and quiet as some of the wildlife. Such a bike is the incredible, quiet new Honda Trials 125.

The secret to great Trials and Trail riding is not how well a bike handles at fast speeds, but how well it handles at slow speeds. Very slow speeds! The new Honda TL-125 has the features to keep you rolling inch by inch. A five-speed transmission geared very low for super-torque at those slower speeds. An extra large rear sprocket to help translate that torque to the wheel.

The slower you go the better balance you need. The TL-125 excels here, too. The body and tank design are extra slim. The frame—rigid and strong. And the pegs are high and handlebars low for greater control while standing as you ride.

The more rocks, logs and trails you go over, the more dependability counts. Once again, the new TL-125 delivers. The air filter's enclosed to keep out dust and water. There's a strong steel skid plate for undercarriage protection. The new exhaust system is tucked in and quiet. For safety, there's a Honda spark arrestor/muffler. And for extra dependability, there's the famous single-cylinder Honda OHC four-stroke engine.

Honda is the first major motorcycle manufacturer to introduce a new bike for this new kind of riding. And the only place you can see it is at your Honda dealer's. Don't wait. The new Honda Trials 125 —whether you're a Trials expert or Trail enthusiast, it has it all for you.

HONDA

From Mighty to Mini, Honda has it all.

For a free color brochure, write: American Honda Motor Co., Inc., Dept. RN, Box 50, Gardena, Calif. 90247.

TEN STREET BIKES UNDER $400

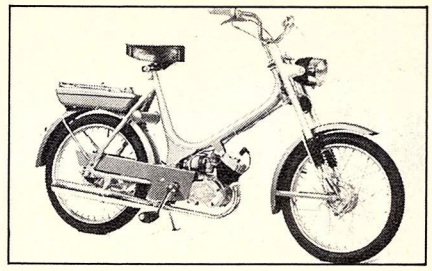
BY BILL OCHELTREE

The price leaders are probably the most ignored group of bikes in motorcycle publications, yet they are the ones that give most beginners their first taste of two-wheel freedom. Considered as something less than prosaic by many experienced riders, there is usually one of this type bike held in the fondest memories of even the most cynical expert. Lest we forget these lowly but noble denizens of the single-track world, here is a bringing together of ten candidates for the title of: "Most likely to hook a newcomer."

You might think we've gone off our rocker with this group that includes a moped, a wire-wheeled scooter and a couple of mini-cycles, but our criteria was simple and straightforward and this is the result. Ground rules were: 1. Must be street legal. 2. Minimum wheelbase of 45 inches. 3. Must be intended for general use - no trail or mini specialties - on/off-road enduros okay. 4. Must have base retail price of under $400 (FOB Los Angeles, taxes, setup not included). The key point here is "general use." A first bike for most people carries the justification of low-cost transportation and convenience. How else do you convince a wife who's crying for a washing machine that a motorcycle is a necessity? Or what can an experienced rider recommend to a friend or neighbor as a first bike? Well here they are, a selection that should satisfy any need.

Although we make no pretense as to testing and evaluation of these bikes, we did ride each one of them briefly so we can give you some idea of how they feel and what it takes to operate them. What we're trying to provide here is a review of the basics, so the deep technicalities of the machinery are left out of the specs. Claimed weights are dry shipping weight, without battery. For total, add six pounds for each gallon of gas and oil and about five pounds for battery. Overall sizes are across the handlebars for width and the height does not include mirrors. Horsepower and gas mileage figures for these bikes are not really very important. Only a couple of them could begin to pull the hat off your head, and in every case the fuel consumption is about as low as you can get. The biggest effect on performance is that in many instances the rider may be equal to or greater in weight than the bike. Despite the fact that some are equipped with passenger pegs, these bikes will do best with just one person aboard.

No matter what your intentions, there's a little something here for everyone from a 48cc bicycle hybrid to a full-size 100cc enduro bike. We've sized them as large, medium and small according to the appropriate size of rider who would find the bikes most comfortable. Not that a small person couldn't ride a large model, but a large person would find a small size bike a bit ludicrous. One note about riding bikes of this size: don't try to compete with traffic, it can be a very dangerous game with so little power. Just look upon it as something better than walking or pedaling, and let the four-wheel monsters have the road. If you're just a beginner, one of these bikes can be your ticket to a whole new world of fun. If you're and old-timer shopping for a second bike, you'll find a bargain here. ●



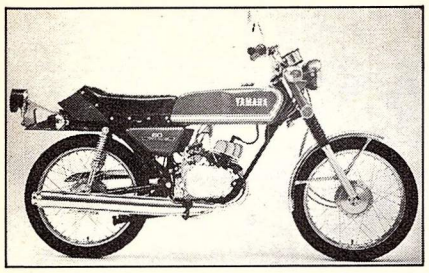
MONARK CITY MOPED

City Moped . . .
Campus cutie . . .
Automatic clutch . . .
Street 50 . . .
Size: medium

You may wonder how such an odd-ball got into a group of motorcycles, but this one fits our criteria and does provide a variety, though somewhat extreme. Started by vigorous pedaling, then pulling in the clutch lever to engage it and turn the engine over, there is an immediate transition from the primitive effort of pumping a bicycle to the euphoric pleasure of a motorized two-wheeler. Intended strictly as in-town, basic transportation, this bike could introduce an apprehensive beginner to the greatest sport on wheels with little effort and even less initial outlay of money than anything shown here. Produced in Sweden where it is very popular with city dwellers, this model is planned to be made available here by early summer. Only drawback with the bike is the requirement for pre-mix oil and fuel, but with a top speed of about 40 mph, a five-gallon supply should last for quite a while without fear of being caught short. This could be the answer to smog-abating gas rationing.

For dealer information write:
Inter-Trends, Inc.
3001 Red Hill Avenue
Costa Mesa, Calif. 92626

Base price as tested	$295
Warranty	90-day
Engine type	Single-cyl. piston port 2-str.
Displacement, cc	48
Lubrication	Pre-mix
Oil capacity, qt.	NA
Fuel capacity, gal.	approx. 1.0
Exhaust system	Downswept muffler
Starting	Coasting
Transmission/shift	Single speed/auto. clutch
Forks	Telescopic
Rear shocks	None
Tire size, front/rear	2.00x16/2.00x16
Ignition lock	None
Fork lock	Yes
Seat height, in.	31 minimum
Overall L x W x H, in.	66x28x38
Claimed weight, lbs.	100
Tools	Yes
Color	Green, blue or white



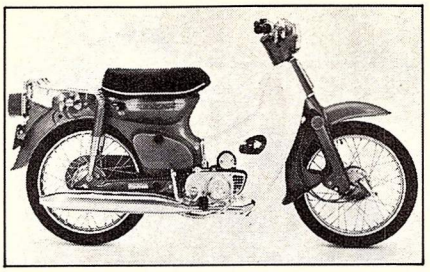
YAMAHA RD-60

Boy Racer . . .
Tachometer . . .
Featherweight roadster . . .
Street 60 . . .
Size: small

Just one look says what was in mind when this one was conceived, and it probably comes closer to its designers' dream than most production bikes. Of course, it's a "Boy Racer." Tachometer, narrow tank, racing-style seat, five-speed gearbox, and just enough sound from the exhaust to let you know it's coming make the RD-60 prime candidate for the upcoming road racer. Of course, size of the rider must be a first consideration here. Far from being a mini, this one still would best suit someone in the under-five-foot-six, hundred-fifty-pound class. With only 55cc you can't really expect a whole lot, but what there is sure does a lot for its size. The reed valve induction and fairly low first gear make putting around very easy and once it gets on the ports, it sings a beautiful song. For the teacup cafe racer this is it.

For dealer information write:
Yamaha International Corporation
P.O. Box 6600
Buena Park, Calif. 90620

Base price as tested	$359
Warranty	6-mo., 4000-mi.
Engine type	Single-cyl. reed valve 2-str.
Displacement, cc	55
Lubrication	Oil injection
Oil capacity, qt	1.1
Fuel capacity, gal	2.1
Exhaust system	Downswept muffler
Starting	Kick
Transmission/shift	5-speed/left foot
Forks	Telescopic
Rear shocks	No adjustment
Tire size, front/rear	2.50x17/2.50x17
Ignition lock	Next to speedo
Fork lock	Yes
Seat height, in	29
Overall L x W x H, in	71x25x39
Claimed weight, lbs	163
Tools	Yes
Color	Metallic blue



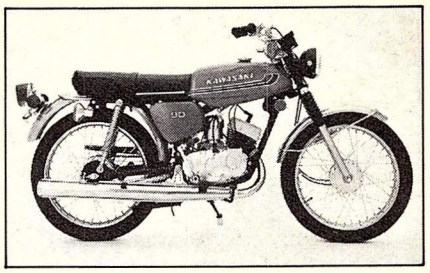
HONDA C-70K1

Ladies' Choice . . .
Electric start . . .
Street 70 . . .
Size: medium

Successor to the illustrious Honda 50 ridden by only the 'nicest people', the ladies needn't feel the least bit left out with this one. Electric starting and automatic clutch make the C-70 a cinch to ride. Though not a speed demon and having only three speeds to choose from with the rocker shifter, this bike will still keep up with its four-speed speed scrambler brother. The full front fender and cowling are intended to keep wind and water away and do a fair job of it. Very quiet, full lighting, luggage rack, fully enclosed chain, narrow handlebars and prim appearance make this bike number one candidate for the tennis set, garden club or genteel marketing. An ideal commuter and shopping vehicle at a price unbelievably low.

For dealer information write:
American Honda Motor Co., Inc.
100 W. Alondra Blvd.
Gardena, Calif. 90247

Base price as tested	$323
Warranty	6-mo., 4000-mi.
Engine type	Single-cyl. OHC 4-str.
Displacement, cc	72
Lubrication	Wet sump
Oil capacity, qt	0.7
Fuel capacity, gal	1.0
Exhaust system	Downswept muffler
Starting	Electric & kick
Transmission/shift	3-spd./leftfoot, auto. clutch
Forks	Leading link
Rear shocks	No adjustment
Tire size, front/rear	2.25x17/2.25x17
Ignition lock	On cowl
Fork lock	None
Seat height, in	29
Overall L x W x H, in	71x26x39
Claimed weight, lbs	165
Tools	Yes
Color	Metallic blue or yellow



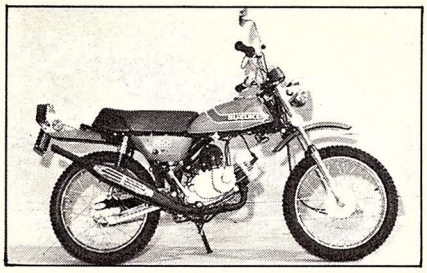
KAWASAKI 90 G-3

Student Special . . .
Budget cafe racer . . .
Street 90 . . .
Size: medium

With 90cc of rotary valve power coupled to a conventional smooth-shifting five-speed gearbox, this bike could be downright dangerous due to the lack of tires, brakes and suspension to match potential performance. We sized this bike medium not so much for the dimensions, as for the very soft suspension and obviously light-duty shocks. The way it's set up, no one over 160 pounds should try pushing it at high speeds, and the passenger pegs should be removed and forgotten. With many corners cut to keep costs down, this bike still maintains a high standard of quality and is fully equipped with more than adequate electrics. Seating and controls are comfortable and convenient, and noise level is such that you get a nice sound without being annoying. A full set of tools and both side and centerstands make what little maintenance is required a breeze. In terms of cc per dollar this bike is the best street buy.

For dealer information write:
Kawasaki Motor Corporation
1062 McGaw Avenue
Santa Ana, Calif. 92705

Base price as tested	$345
Warranty	6-mo.
Engine type	Single-cyl. rot. valve 2-str.
Displacement, cc	90
Lubrication	Oil injection
Oil capacity, qt	1.2
Fuel capacity, gal	2.3
Exhaust system	Downswept muffler
Starting	Kick
Transmission/shift	5-speed/left foot
Forks	Telescopic
Rear shocks	No adjustment
Tire size, front/rear	2.50x18/2.50x18
Ignition lock	Under tank
Fork lock	Yes
Seat height, in	30
Overall L x W x H, in	72x33x41
Claimed weight, lbs	178
Tools	Yes
Color	Orange



SUZUKI TS-50K GAUCHO

Grown-up's mini . . .
Softest seat . . .
For "chicken" beginners . . .
On/off-road 50 . . .
Size: medium

Very pleasant scaled-down version of Suzuki's popular line of on/off-road enduro models. At home equally on the street as on recreational sight-seeing trails, but with only a 50cc engine, this bike requires care and patience in traffic. Very sumptuous seat and wide bars give the feel of sitting on a full-size bike. High fenders and good ground clearance accommodate off-roading, but lack of a USFS approved spark arrestor restricts operation to roads or well cleared designated trails. Operation is as a conventional motorcycle with clutch and five-speed, foot-operated gearbox. Engine power is slow in coming, so clutch slipping is required for heavyweights or on uphill starts. Fully equipped with dual mirrors, audible horn and lights, the Gaucho has a very good finish with a reputation for quality and service backed by the longest warranty in the industry.

For dealer information write:
U.S. Suzuki Motor Corporation
13767 Freeway Drive
Santa Fe Springs, Calif. 90670

Base price as tested	$349
Warranty	12-mo., 12,000-mi.
Engine type	Single-cyl. rot. valve 2-str.
Displacement, cc	49
Lubrication	Oil injection
Oil capacity, qt	1.2
Fuel capacity, gal	1.3
Exhaust system	Downswept muffler
Starting	Kick
Transmission/shift	5-speed/left foot
Forks	Telescopic
Rear shocks	No adjustment
Tire size, front/rear	2.50x17/2.50x17
Ignition lock	Under tank
Fork lock	Yes
Seat height, in	29
Overall L x W x H, in	72x33x39
Claimed weight, lbs	156
Tools	Yes
Color	Bay blue

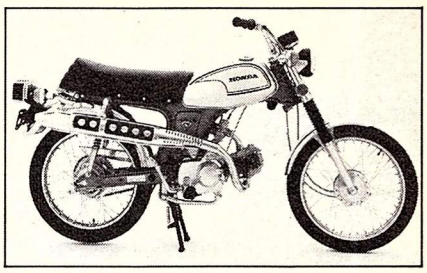
ROCKFORD TORA DELUXE

Shorty . . .
Mini with a heritage . . .
Lightest trail type . . .
On/off-road 60 . . .
Size: small

Just meeting our wheelbase requirement, this bike is a legalized version of the basic off-road mini cycle, Tora. Built in Japan by Bridgestone, the powerplant carries with it an enviable but little known reputation for performance and durability. Designed primarily as a dirt bike, the Deluxe is a concession to the concept of dual-purpose and dispenses with many of the features normally found on street bikes. Lack of amenities can actually be an asset though, in providing a basic simplicity which minimizes need for maintenance and repair, and maximizes off-roading capabilities. Though small in size, this bike provides a fair degree of comfort for an adult and the engine puts out a surprising amount of power for such little size. Lightest of the off-roaders, this bike would make an ideal bumper-mounted traveling companion.

For dealer information write:
Rockford Motors Inc.
1911 Harrison Avenue
Rockford, Ill. 61101

Base price as tested	$370
Warranty	120 days
Engine type	Single-cyl. rot. valve 2-str.
Displacement, cc	58
Lubrication	Pre-mix
Oil capacity, qt	NA
Fuel capacity, gal	1.1
Exhaust system	Upswept muffler
Starting	Kick
Transmission/shift	4-speed/left foot
Forks	Telescopic
Rear shocks	No adjustment
Tire size, front/rear	3.00x16/3.00x16
Ignition lock	On bar yoke
Fork lock	None
Seat height, in	29
Overall L x W x H, in	68x31x39
Claimed weight, lbs	138
Tools	Yes
Color	Yellow



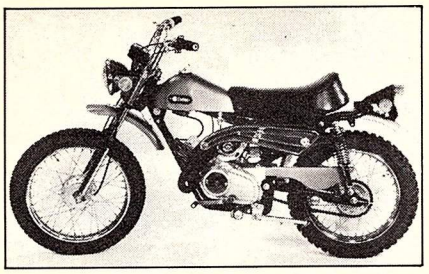
HONDA CL-70K3 SCRAMBLER

Scrambler . . .
Four-stroke . . .
On/off-road 70 . . .
Size: large

Standing a little taller than the others, this bike has the feel of a full-sizer, and stands a good bet for the adult beginner. Its 72cc four-stroke engine is easy starting, quiet and virtually trouble-free. Full length seat provides seating variety, but wheel suspension doesn't provide for excessive weight. The front forks are quite soft and the rear shocks, though firm, aren't really up to two-up riding. The four-speed gearbox is of the up-for-neutral variety with a heel kicker for down shifting and seems to get the power to the road in time to match bike speed. Strange feature is the use of a center-stand and complete lack of sidestand. Complete lighting with turn signals makes this a more streetable bike than dirt machine despite high pipe and semi-knobby tires. Universal availability of Honda parts and the usual bargain prices make this one a budget operator's dream.

For dealer information write:
American Honda Motor Co., Inc.
100 W. Alondra Blvd.
Gardena, Calif. 90247

Base price as tested	$344
Warranty	6-mo., 4000-mi.
Engine type	Single-cyl. OHC 4-str.
Displacement, cc	72
Lubrication	Wet sump
Oil capacity, qt	0.75
Fuel capacity, gal	2.0
Exhaust system	Upswept muffler
Starting	Kick
Transmission/shift	4-speed/left foot
Forks	Telescopic
Rear shocks	No adjustment
Tire size, front/rear	2.50x17/2.75x17
Ignition lock	Under tank
Fork lock	Yes
Seat height, in	31
Overall L x W x H, in	72x30x39
Claimed weight, lbs	167
Tools	Yes
Color	Candy red or blue



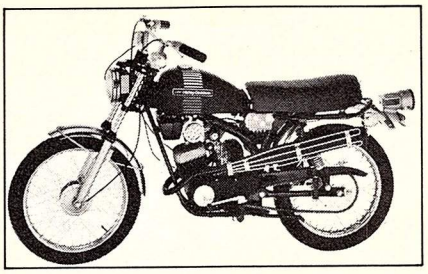
GEMINI BOSS 80

Boy Scrambler . . .
On/off-road 80 . . .
Lowest seat . . .
Size: small

Patterned after the rotary-valve design Yamaha 80 of yore with all the bugs out, this Taiwan-built super mini is aimed at the mini-racer youth market. Fully equipped for the street and with a quiet exhaust and comfortable seat, this bike will do double duty with the best. With a four-speed transmission you can't expect the capabilities of a five-speed, but the engine does a credible job as evidenced by numerous wins at the national level in mini-cycle racing. With a trials tire at the front and knobby aft, it might get squirrelly at high speeds on pavement, but for trail riding or scrambling this bike will dig the dirt. Complete tool kit, full factory-backed warranty and a choice of colors round out the features of this bike.

For dealer information write:
The San Tong Co. Inc.
15514 Figueroa St.
Gardena, Calif. 90247

Base price as tested	$380
Warranty	90-day
Engine type	Single-cyl. rot. valve 2-str.
Displacement, cc	76
Lubrication	Oil injection
Oil capacity, qt	1.0
Fuel capacity, gal	1.5
Exhaust system	Upswept muffler
Starting	Kick
Transmission/shift	4-speed/left foot
Forks	Telescopic
Rear shocks	No adjustment
Tire size, front/rear	2.75x16/3.00x15
Ignition lock	Under tank
Fork lock	None
Seat height, in	28
Overall L x W x H, in	67x33x38
Claimed weight, lbs	154
Tools	Yes
Color	Candy orange or green



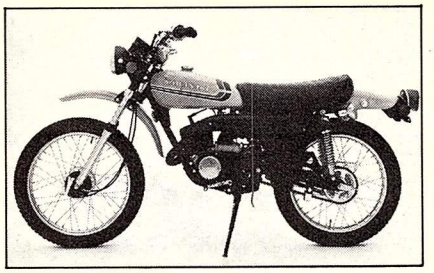
HARLEY-DAVIDSON Z-90

Town & Trail . . .
Biggest tank . . .
On/off-road 90 . . .
Spark arrestor . . .
Size: large

Based on the giant-killer Baja off-road model but with price in mind, this Italian-built hummer has many of the built-to-last Harley features. A 12-volt electronically regulated electrical system with a battery about three times over-size guarantees legal lighting requirements and powers a horn that can be heard a block away. Only bike of this collection with a U.S. Forestry-approved spark arrestor, and a wide-ratio transmission makes the Z-90 well suited for trailing, and the combination of rear trials tire and front universal make it well adapted to the street too. One thing, don't try road racing with those 4-inch brakes; they really won't take the weight and power. Not the slickest looking but offering a choice of colors and a size and comfort to suit the more sedate, Harley still knows where it's at to attract new fans.

For dealer information write:
Harley-Davidson Motor Co. Inc.
3700 West Juneau Avenue
Milwaukee, Wisc. 53201

Base price as tested	$375
Warranty	90-day, 4000-mile
Engine type	Single-cyl. piston port 2-str.
Displacement, cc	90
Lubrication	Oil injection
Oil capacity, qt	1.5
Fuel capacity, gal	2.4
Exhaust system	Upswept muffler, spark arr.
Starting	Kick
Transmission/shift	4-speed/left foot
Forks	Telescopic
Rear shocks	No adjustment
Tire size, front/rear	2.50x17/3.25x16
Ignition lock	Under tank
Fork lock	Yes
Seat height, in	30
Overall L x W x H, in	71x33x40
Claimed weight, lbs	184
Tools	None
Color	Candy blue or black



KAWASAKI 100 G-5

Dad's Choice . . .
Full-size bike . . .
On/off-road 100 . . .
Size: large

A truly full-size enduro-type bike, you might wonder how the G-5 got into this group. Well, it did it on price, and apparently Kawasaki has found the right formula; this is their hottest seller! Fully equipped, comfortable, roomy and with gobs of zest, this bike has a styling of its own and all the quality and features of its larger contemporaries. But! Shame of shames and woe of woes, this is the only one of the entire line of Kawasaki's off-road machines that doesn't have a U.S. Forestry approved spark arrestor. Somebody was sure sleeping on this one. Addition of a spark arrestor would also serve to dampen the sound emitted from the somewhat noisy but apparently legal muffler. Longest wheelbase, largest wheels, full-size suspension and still not a heavyweight make this the best buy for a gung-ho beginner.

For dealer information write:
Kawasaki Motor Corporation
1062 McGaw Avenue
Santa Ana, Calif. 92705

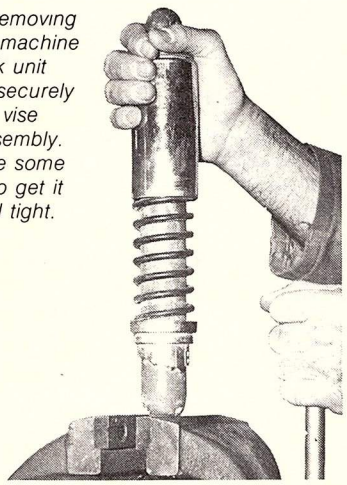
Base price as tested	$399
Warranty	6-mo.
Engine type	Single-cyl. rot. valve 2-str.
Displacement, cc	100
Lubrication	Oil injection
Oil capacity, qt	1.3
Fuel capacity, gal	2.1
Exhaust system	Upswept muffler
Starting	Kick
Transmission/shift	5-speed/left foot
Forks	Telescopic
Rear shocks	5-position adjust.
Tire size, front/rear	2.75x18/3.00x18
Ignition lock	Next to speedo
Fork lock	Yes
Seat height, in	31
Overall L x W x H, in	78x34x42
Claimed weight, lbs	195
Tools	Yes
Color	Candy blue or candy orange

HOW TO REBUILD BULTACO BETOR SHOCKS

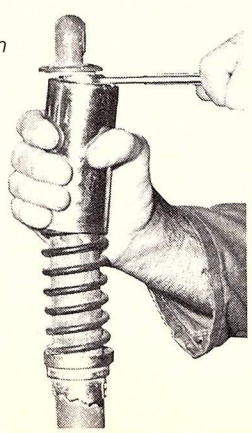
By Tony Murphy

There comes a time in the life of every shock absorber unit, no matter who makes it or how much it costs, when it no longer properly performs the job for which it was intended. Thousands of miles of bumps, heat and dust just does it in and it never re-covers. That is, not without a little help from you. Gather around and we'll show you just how easy it is to regain that Cadillac ride you once had.

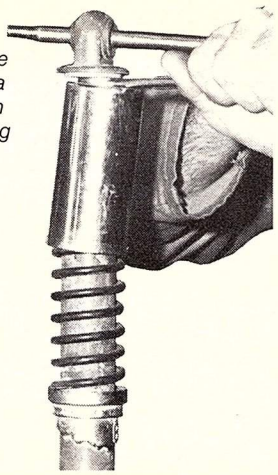
1. After removing from the machine the shock unit must be securely held in a vise for disassembly. It will take some muscle so get it good and tight.



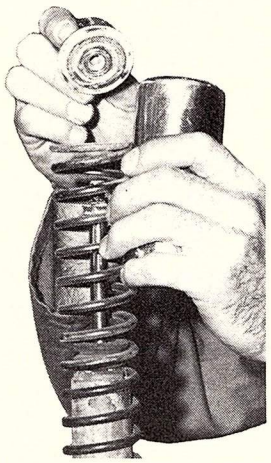
2. Pull the spring cover down and insert a 17mm open end wrench on the top locknut. It's easier if you have some strong help.



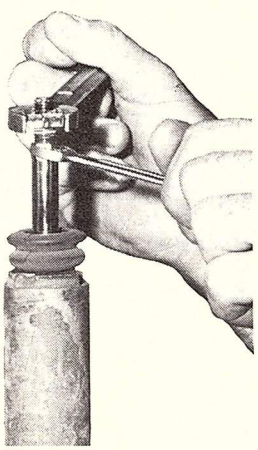
3. While holding the locknut, the top mount can be unscrewed with a suitable tool such as an axle or long screwdriver.



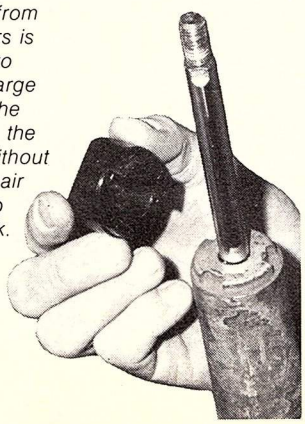
4. With the top mount loosened, the mount, cover and spring can be removed. Be sure that the lower cover is also removed.



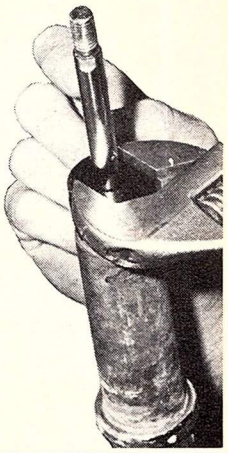
5. Remove the large top lock-nut while holding the damper shaft with an open end wrench on the flat provided.



6. This special tool available from Bultaco dealers is the best way to unscrew the large nut securing the damper inside the main body. Without one, a large pair of water-pump pliers will work.

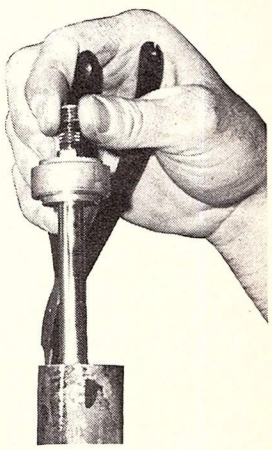


7. With the tool or pliers, unscrew the large nut. Take care since there is shock fluid inside and it can make a mess of the bench.

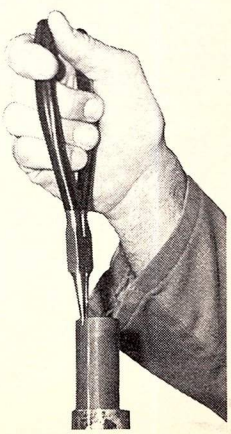


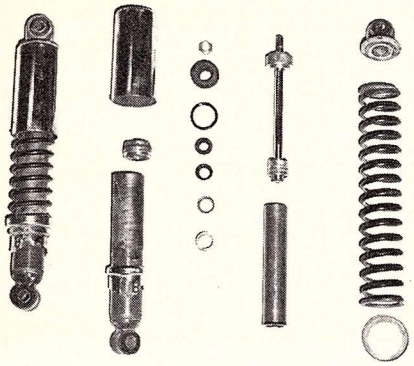
8. Once the large nut is removed, an "O" ring fitting around a large aluminum piston must come out before the piston and rod are free.

9. Carefully remove the main damper rod and piston assembly.



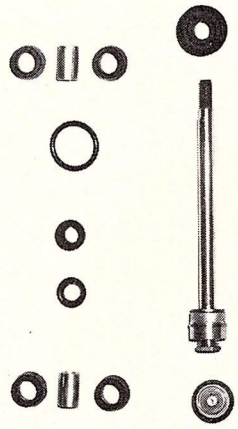
10. Next to come out is a long sleeve in which the piston and rod operate. With this operation the unit is completely disassembled. Clean all the parts before reassembly.



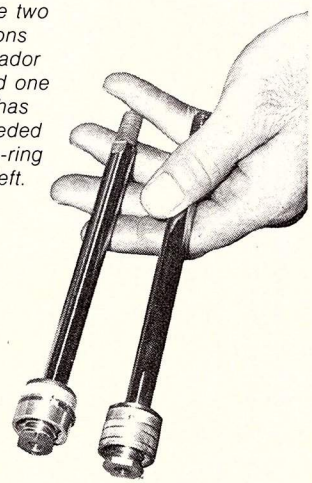


11. Carefully lay out the disassembled parts and make sure that you have not lost any. Compare them with the new ones.

12. This rebuild kit is also found at your Bultaco dealer. Be sure to specify year and model when ordering parts.

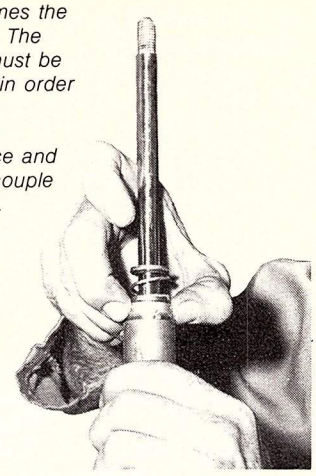


13. There are two types of pistons found in Matador units. The old one on the right has been superceded by the piston-ring type on the left.

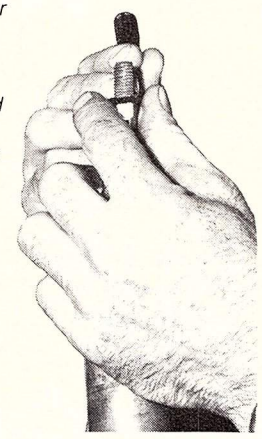


14. The new parts go back together in the opposite order of disassembly. Before inserting the long sleeve, top it up with the recommended oil.

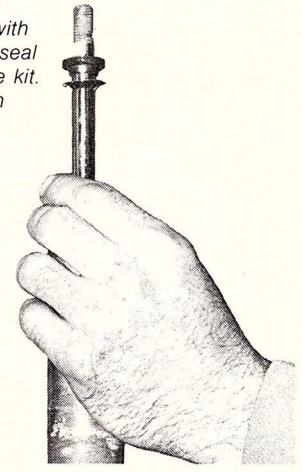
15. Here comes the hardest part. The piston ring must be compressed in order to slip it into the sleeve. It takes patience and may cost a couple of fingernails.



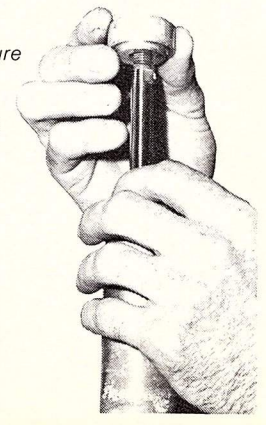
16. Take care with the delicate flapper valve. It must be slipped over the threads and flats on the damper rod with the dished section toward the bottom of the unit.



17. Follow the flapper valve with a new rubber seal provided in the kit. It slips right on and fits in the flapper valve.



18. Next comes the large alloy piston that holds the top "O" ring. Make sure that the "O" ring groove is toward the top of the unit.

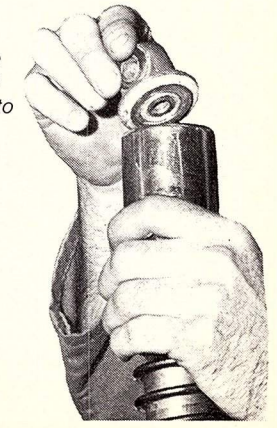


19. Carefully install the "O" ring. It will go together easier with a little lubrication.

20. In this shot the large threaded nut has been replaced and tightened with the trick Bultaco tool. Next comes this rubber bumper around shaft.

21. Before you replace the top locknut, dribble a little Loctite on the threads.

22. If your friend is still around, call him to help you compress the spring and thread the top mount onto the damper shaft. To tighten it, refer to step #3.



SUMMERTIME TUNE-UP/FIX-UP TIPS

The weather's warm and you're ready . . . but is your bike?

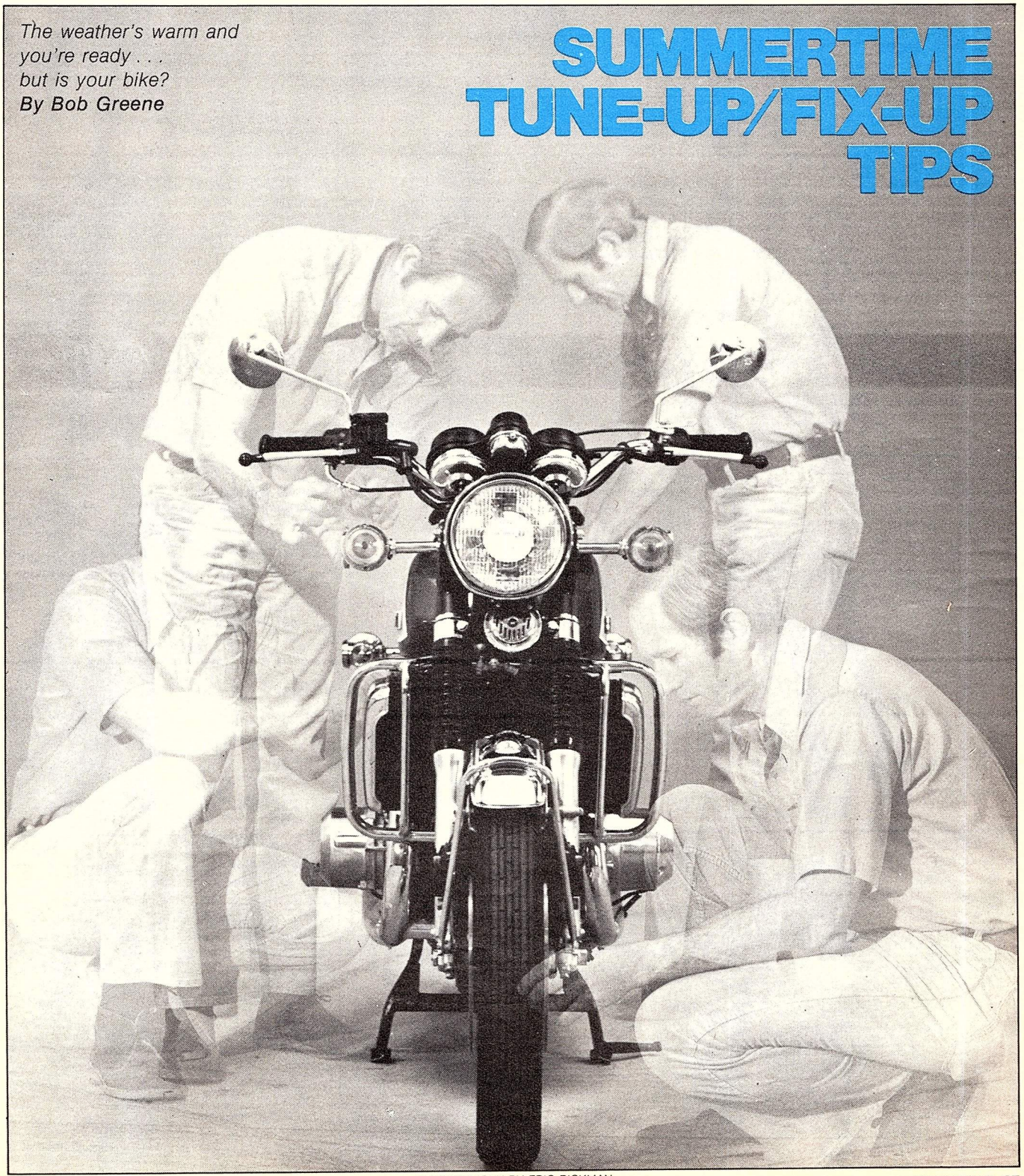
By Bob Greene

To that cold conglomeration of steel and rubber sitting out there in your garage, the coming of summer is tantamount to New Year's Eve, the time of the year to make a few resolutions, get it all together, and straighten things out for the better days ahead. For spring and summer are motorcycling months, and to roll into them with a half-ready mount is not only an invitation to danger but to inevitable dillution of the fun you've waited all winter to enjoy.

Whether you are a highwayman or off-road charger, I need only remind you that it is usually not the big things—broken crank, fractured frame, etc.—that prematurely spoil a day's fun, but a two-bit item that could have been saved by the squirt of an oil can, a wrap of electrician's tape or, at most, a tune-up

Unfortunately for the touring motorcyclist, practically all parts sources dry up on weekends (Sunday and Monday), when the bike shops are usually closed. Gas stations don't stock your innertubes, tires, batteries and sundry electrical parts; you might as well be hot-footing-it across the moon.

In light of this truth, and based on personal previous experience, I reckon the electrical department would be the logical place to concentrate in second-guessing trouble. Number

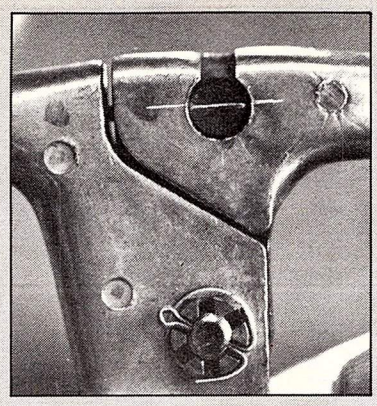


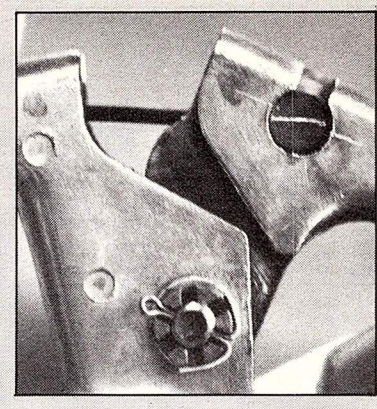
PHOTOGRAPHY BY ERIC RICKMAN

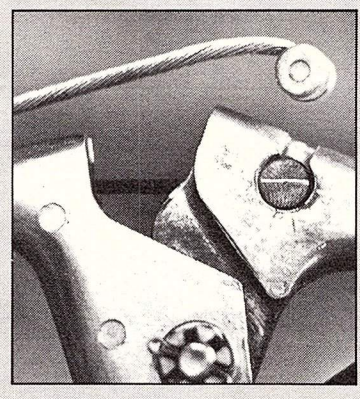
one in priority would probably be an electrical short looking for a place to happen. Preclude this by removing the gas tank and inspecting for chafed wiring trapped between tank and frame. Most tanks are rubber-mounted and act as continual agitation to wiring that passes close by, especially when rubber tank mounting biscuits have deteriorated and sagged enough to allow the tank to change its original relationship with the frame. Worse, yet, the same situation can cause the tank to run afoul the frame and hammer or wear thin enough to fracture and leak. So while you have the tank off, inspect the inner and bottom sides very closely for hair-line cracks or shiny spots that signify friction. If contact between tank and frame is unavoidable, dent the area slightly with a ball peen hammer to create clearance.

With the tank removed it is also an opportune time to check all electrical connections normally hidden from view. Make sure that bolts holding coils, etc., to the frame are tight and that brackets are not partially fractured. And if your engine has a top motor mount, snug down on this as well as head or rocker box studs, using a 6-8-inch wrench with care if you don't have a torque wrench handy. Continue on checking the fasteners on all electrical fixtures, under the saddle and up, around and in the headlight shell. On late Lucas products, be sure to eyeball the electrical zener diode heat sink and its bracket up under the headlight; bracket fatigue is common and can put you out of business. If your bike is equipped with electrical fuses, stock up rather than go the road-side fix with nail, wire or tinfoil. And if your bulbs don't have automotive counterparts, wrap one each in sponge rubber and tape to an underseat member.

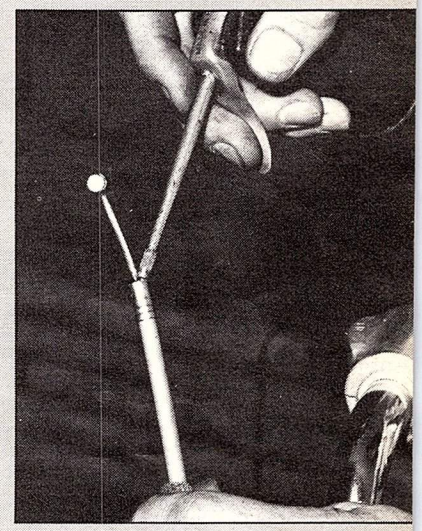
Equally common, if not more so, in the failure department are handlebar cables. At least a spare clutch and throttle cable are adviseable, ideally pre-routed alongside the ones in use, to speed hook-up in case one of the heads pops off. For due to the less than ideal mechanical environment in which they have to survive, cables are quite vulnerable to breakage. You can add greatly to their longevity by making sure the heads are not binding in the clutch and brake levers. Make several dry run pulls, observing closely that the heads turn in the levers as the levers are moved. If they don't, suspect and remove a burr, then lubricate with grease or oil. Turn the handlebars from lock to lock, checking that the cables do not pull up tight at any point and thereby cause undue strain or bending.

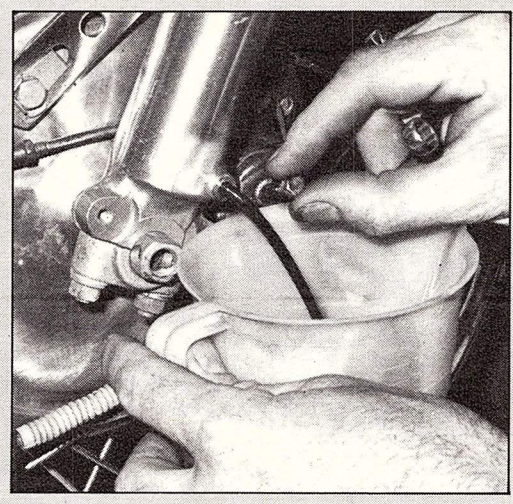




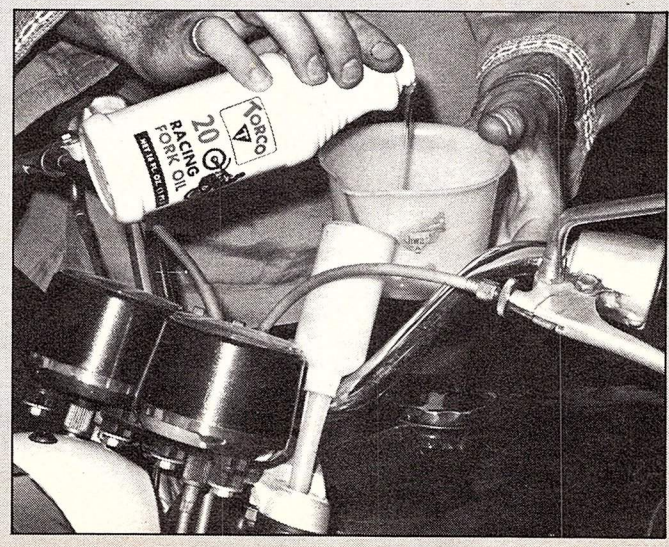


Cables: *Clutch and brake cable heads must be able to rotate to allow cable to maintain straight pull. If burr or lack of lubrication locks head in lever, constant bending results and cable will fail. Chalk mark, as shown, shows movement or lack of it. Oil as shown.*

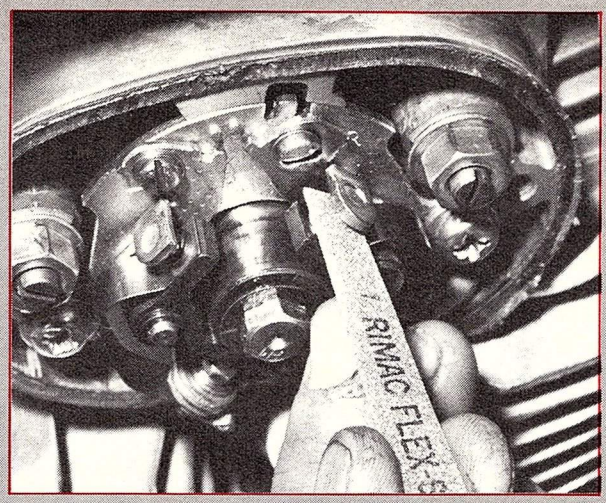




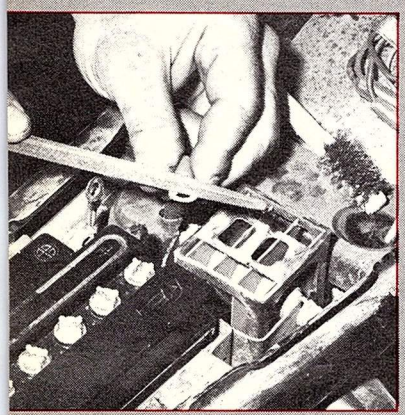
Fork oil: *Most overlooked of all lubrication systems is that of the fork. See how quickly it becomes black. Change it according to the book, or even oftener for maximum seal and piston longevity. Two times a year is not too often for street bike; every couple runs in dirt.*

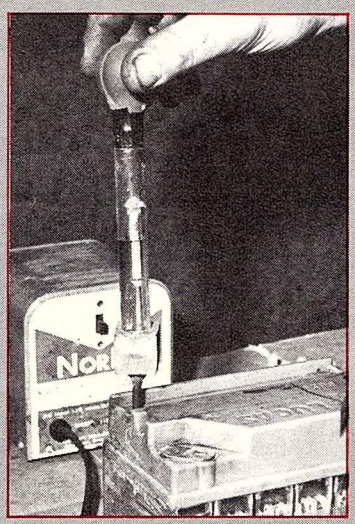


TUNE-UP FIX-UP

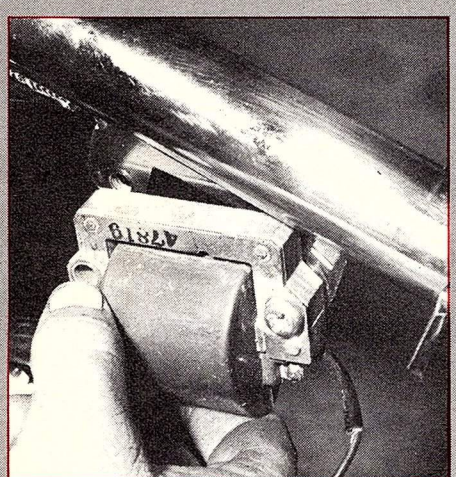


Points: *Rimac Flex Stone is best for points, can be cut down with scissors to maintain fresh tip as it wears. This quick and dirty owner should have covered cam with rag prior to filing to exclude grit.*

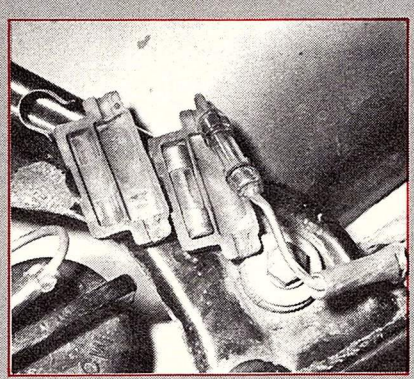




Battery: *Freshen terminals by washing with boiling water and teaspoon of baking soda or manually with file. Keep battery topped off religiously and occasionally check condition with hydrometer. If low, hook up trickle charger. Battery top should always be clean and dry. Use distilled water only; always wash hands afterward since acid devours Levis.*

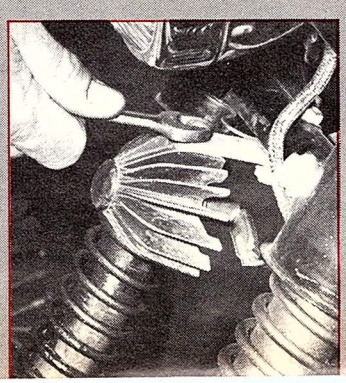


Coils: *They, along with other electrical terminals, should be kept tight and clean. Loctite all nuts and bolts.*



Fuses: *Replace spare immediately after using. Position terminals where they won't be constantly jiggled or flexed, or pinched by saddle.*

Rectifier: *If this bracket fails, surplus electrical energy cannot turn to heat and dissipate through tiny radiator, thus an overload. Keep tight. Home-made two-piece laminated bracket is better.*



A condition of extreme danger can exist especially with throttle cables which have a midway adjuster. If excess play in the throttle is allowed to gradually increase unnoticed, the cable housing can jump out of the adjuster with an accidental tug, causing a runaway throttle. For this reason it is imperative that the housing be adjusted to provide minimum throttle play, thus maintaining necessary tension between cable housing and throttle reel. Upon readjustment of the throttle cable housing adjuster, again turn the handlebars from lock to lock, with the engine idling, to be sure that the adjustment isn't so tight as to cause the engine to speed up due to housing bind around the frame head.

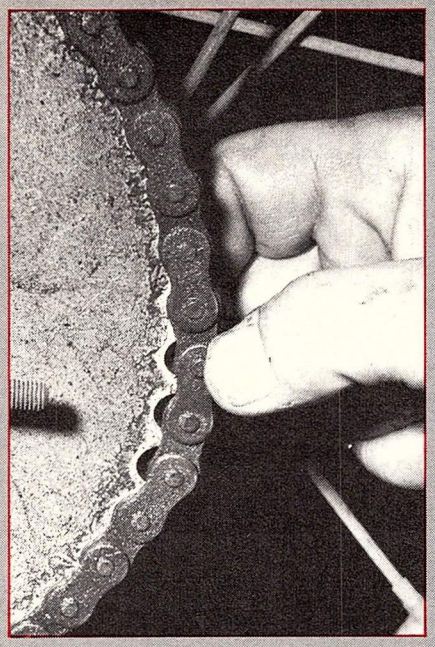
Although tire trouble has been the least of my worries over the years, a fundamental part of any springtime renovation should include the wheels and tires. Rack them up off the ground and spin them for true. Listen for bearing growl and look for wobble. It is adviseable at least once a year to drop the rear chain to get a proper reading on this with the back wheel as well. Both should spin freely and quietly, admittedly not for the 21 minutes that off-road ace John McLaughlin used to get out of the front wheel of his works model 350 Velo racer but at least enough to show that it's not hurtin'. Flick the spokes while the wheel is up to see that they all have a similar ring, but go easy on tightening them should you hit a flat note. Spoke tightening to any great degree should be done with the tire off to be certain it is not being screwed in far enough to break through the rim liner and puncture the tube with its inevitably sharp end. If you have the tire off, take a scraper to the spoke ends, rounding off their sharp edges to preclude a puncture, subsequently laying two or three wraps of masking tape around the rim valley to insulate the spokes from the tube when the regular tube liner rots and snaps apart within the tire and unbeknown to you. Also pry the casing apart and check for ruptures on the inside that haven't broken through yet.

Undoubtedly the most neglected of all your motorcycle's systems is the lubrication system—including the front forks. When was the last time you drained them? Actually they should be drained as often as the engine or trans if you expect seals and bearings to go the route. But since spring's in the air, let's dump everything—engine, trans and, if you've got a shafty, rear end — preferably when the bike is hot, letting it drain overnight if convenient. Before throwing the oil out, swill it slowly

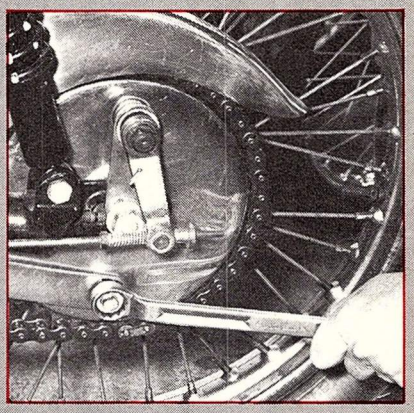
around in the pan as if prospecting for gold; you may find it in the form of bearing or gear flaking. I put a flake or two down as normal, but if the oil really sparkles you've either been negligent in your oil drain routine or you've got a mechanical problem. If in doubt, drain, refill and run it, then repeat the panning process a few days later. If you get a second reading similar to the first, don't plan any long trips — like to the market. While on the oil inspection tour, scrutinize all oil hoses and connections for cracks or deterioration; a ten cent piece of rubber can cost a couple hundred dollars in engine overhaul. Depending upon the extremes of hot and cold where you live, springtime may call for an engine oil viscosity change, so check your handbook or your dealer for the right way to go.

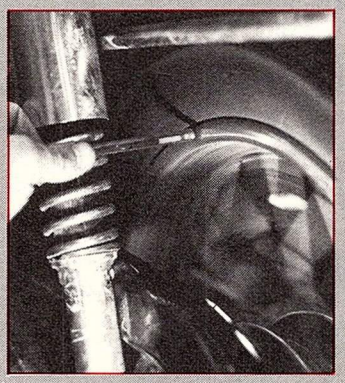
Better give the clutch a once-over while you're at it. Adjust it according to the book, then give it this simple final test. With the front wheel against a wall, and the rear tire on dry pavement, bring the revs up and pop the clutch in low gear. You should be able to spin the rear tire without question. If not, you've got a clutch plate or spring problem, or an over-oiling situation in the clutch case. If the plates are suspect, pull them and check for true on a flat surface. Often just a light kiss with a small sandblasting machine on the steel plates will cure a slip — just break the glaze. Before buttoning up the cover, measure the springs for sag, possibly replacing them if below factory specs, and make sure they are all turned in an equal amount during final adjustment. Double-check for this adjustment: hold the clutch lever in and kick the starter over, watching from above for even alignment as they revolve. A final exam in the driveline department consists of a chain check. With the rear chain adjusted, try to pull it off the sprocket at axle height; if it can be pulled off the teeth much over ¼ inch, with the bottom run held taught by hand, you may be getting ready for a new chain.

Of course we haven't overlooked the usual ignition and valve timing, but since this is pretty well taken for granted, we thought some of the less common aspects of preparation, those which aren't always spelled out in great detail in the book, would be more apropos. By all means make sure that ignition and valve timing are spot-on. The best points dresser in town is the handy plastic Flex file shown in the included photos. Cut it to fit your wallet with a scissors or give it to the Little Woman — great for hangnails too. Happy hunting. •



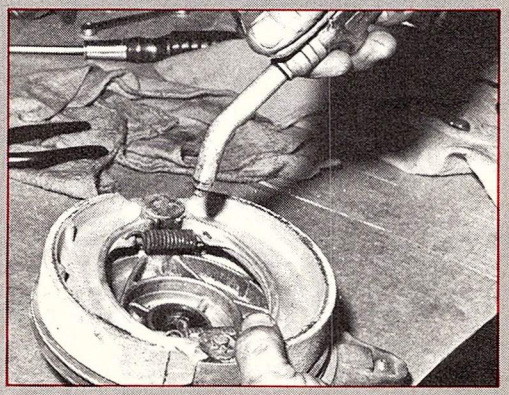
Chain: *This chain is to the point where it will bear close scrutiny from here on out. Check sprocket for hooked teeth. Always loosen backing plate anchor nut before moving axle to adjust chain.*

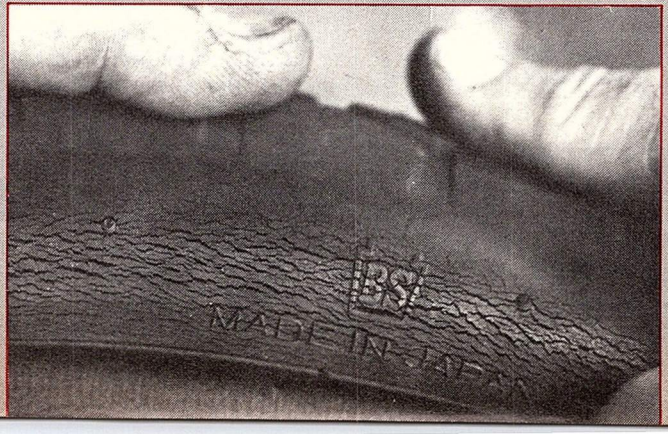




Wheels: *Spin wheel, using fixed pencil to check for rim true. Chain must be removed to determine static balance before adding balance weights. If weights aren't handy, wrap solder around spokes as needed.*

Brakes: *With backing plate off, check for shoe wear, spring condition, then clean and grease cam. Remove shoes by mounting backing plate in vise, peeling shoes away from plate at right angle.*





Tires: *This casing calls for a big reduction in speed locally, would best be replaced for long trip. It's had it! Now spread casing wide apart with your feet and check inside for carcass breaks.*

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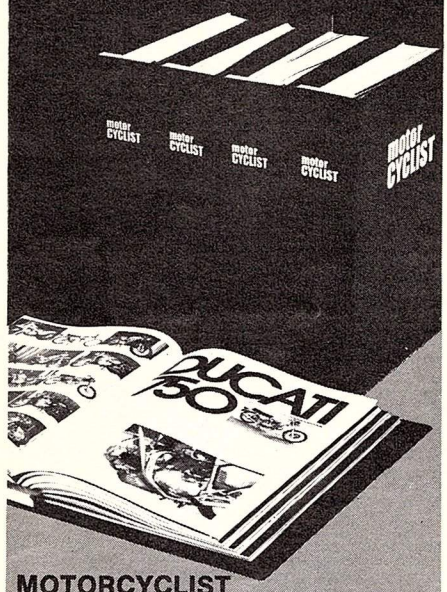

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THE AMA.....*continued from page 35*

Also being considered is future emphasis on speedway racing which, despite the limited number of highly specialized machinery, has rare spectator interest and therefore the potential for bigness equal to that in Europe. March and his men aren't overlooking any segment of the sport.

Competition has traditionally been separated into two divisions, Amateur and Professional, each with its own yearly champion according to type of activity. Most prestigious is The National Champion, as determined by the professionals' earned points at road race and dirt track points events, including short track. But until recently these divisions only accommodated the old folks—over 16 years of age—and didn't fully recognize where it's at today, 16 and under. So last year AMA, in one of their most progressive moves, created the Youth Division, completely apart from either the Amateur or Professional and with an individual competition rule book and code book. Dues, including insurance, are $8 a year. Interestingly, had this peanut butter and jam class been in operation in 1960, when 16-year-old whizz kid Eddie Mulder won the Big Bear National Hare and Hound, he would have ridden in the Youth Division. Once out of the junior league, a young racer can apply for his professional license at 16.

The two greatest competition events of worldly prominence are the Isle of Man road race and the International Six Days Trial. The former is permanently established, of course, at the site bearing its name, but the latter is of a roving nature, sponsored each year by one of the hosting FIM affiliates. In 1973 the AMA succeeded in bringing it home to Berkshire, Massachusetts, but not without further widening of the age-old rift between the factions of east and west. Originally scheduled for the Fort Hood, Texas Army base, the western site, which would have favored the sand-savvy Americans, was scuttled in favor of the scenic Berkshire Mountains. Westerners cried that their chances at the Six Days were torpedoed when majordomos of eastern woods sports put the arm on March, asking: "What kind of impression of America would a fenced-off and armed-guarded military reservation make on visiting Europeans?" Others inferred that March used the Six Days switch to barter for the return of waning eastern states allegiance. March emphatically denies it, claiming that the decision to run in the eastern woods came only after logistics and personnel hangups made Hood extremely impractical: "We just didn't have it going for us there at this time. And above all, our first obligation is to stage a flawless event, place country above rider, if we are to host the Trials again in years to come." This east-west squabble will only be settled by an American victory at Berkshire where, theoretically at least, neither the Americans nor the Europeans will have the slightest advantage.

Objectively it would appear that except for such family controversies as compulsory insurance and the Six Days site the American Motorcycle Association is showing unusual progress and foresight. By comparison it is covering more ground, with less income, than allied auto sports-oriented organizations. Compare the AMA's $12 tab and benefits to those of the National Rifle Association or the National Hot Rod Association. NRA has a $7.50 annual bite, in return for which the members receive a monthly magazine and decal—period. But they have over a million members, five times that of the AMA. And nobody's bitching. NHRA membership costs $10, includes a rule book, decal, newspaper and $10,000 accident policy effective only during the hours and on the premises of an NHRA meet. Their role call is a meager 28,000.

No, the AMA's problem seems one of growing pains more than actual physical ailment. The insurance issue is a passing one, that should be decided automatically and unemotionally within the year by a rise or fall in membership. No one knows better than March that the motorcyclist needs it—AMA's insurance underwriter lost $800,000 in two years—but neither can it be argued that he should be insured against his will, no more than helmets should be mandatory. It's still a relatively free country. The point is, it should be resolved by a show of hands, or dues checks if you prefer, rather than sap vital strength by prolonged harangue.

More to the point is the need for an east-west treaty wherein the amateur sporting chiefs from each side of the Mississippi spread out their grievances in a series of powwows to ensure equity of national competition interests.

And what about Joe Lunchbox Rider? The road rider? Other than a legislative umbrella that leaks through as much as it runs off, what is the AMA doing for him as compared to the tightly organized and considerably more vocal sports rider? He's pretty low on the organizational tree. What about a national road rider safety contest or award system? Or an inter-club field meet or road rally competition by district, with a national run-off in fact or by points as diversified as, and equal in emphasis to, off-road competition? Although the AMA Public Relations Department is doing a most prolific job with an average of eight news releases a week to 1100 people in radio, TV, newspapers and the vertical press, I would like to see more emphasis on the how-to-do-it aspects of fun and games beamed to the life's blood of the AMA, the motorcycle club. *(Story continued on page 80)*

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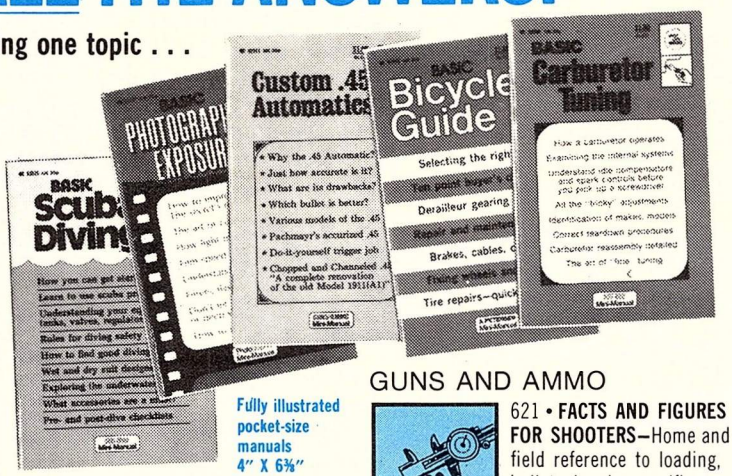

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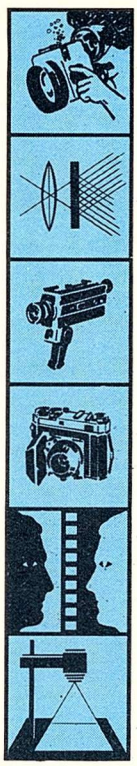

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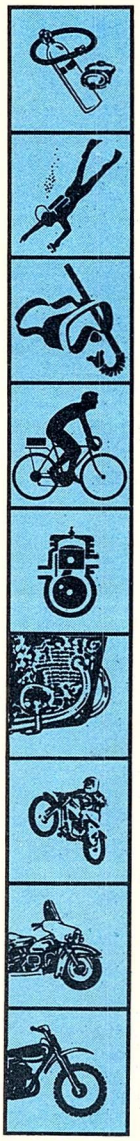

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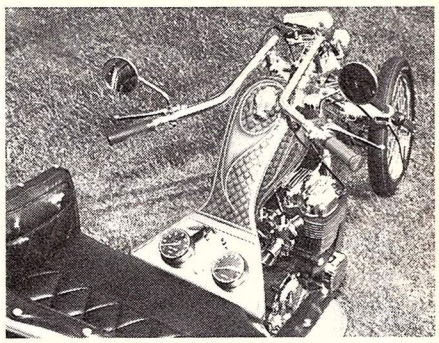
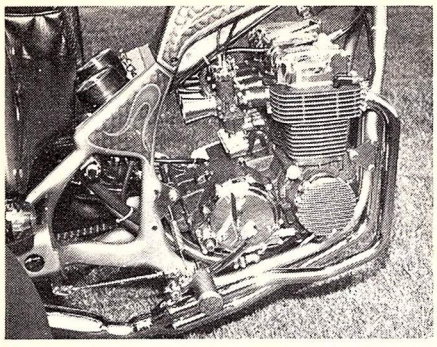
A JOINING OF HONDA AND HARLEY PRODUCED THIS DELUXE THREE-WHEELER.

PHOTOGRAPHY BY BOB WAGNER



This hybird cross of Honda and Harley is what happens when the little woman decides she wants to go along on those cycle trips too, (still haven't figured out where she rides). Dan Gerber of Tustin, Calif. married a '70 Honda 750 to a '57 Harley Servi-Car rear end to produce this really far-out trike. The Honda frame was completely molded by Dan himself, using both metal and Bondo to achieve the smooth blending of frame members. The Harley Servi-Car rear axle assembly was installed upside down to gain proper chain offset, an additional ¼-inch was required for final alignment. A framework of 1-inch-square tubing was built over the rear end to support the "Sacred Cow" molded fiberglass body. The Honda rear springs and shocks were retained to support the new glass body. A pair of 24-inch chrome moly tubes are used to extend the 750 front end, while retaining the stock wheel and brake set-up. Those neat rectangular headlights are really Mustang fog



lights. More of Henry's influence appears in the Model T brass lantern taillights courtesy of Ford Parts Obsolete. Those huge weenies on the offset rear wheels are 19.5x15 inchers. That little chrome tip you can see just behind the tire is the end of a chromed springleaf wheelie bar. You better believe that when Dan grabs a handful of that 750, there's no way he's going to break those weenies loose, so the sprocket climbs the chain right now, and it's instant giant wheelie. No need to worry, Dan kept the HD hydraulic binders on the rear so he can get her back down with no sweat. Check the way that Sprotster XLCH gas tank is faired into the sanitary dashboard. Dash has the stock speedo and tach, plus ignition switch and a toggle switch for the rear mounted turn indicators. That little trunk has a removable lid, and houses the battery and oil tank. The fish-scale paint job by Von Gil is a combination of dark and light blue with purple and blue insets: WOW! ●

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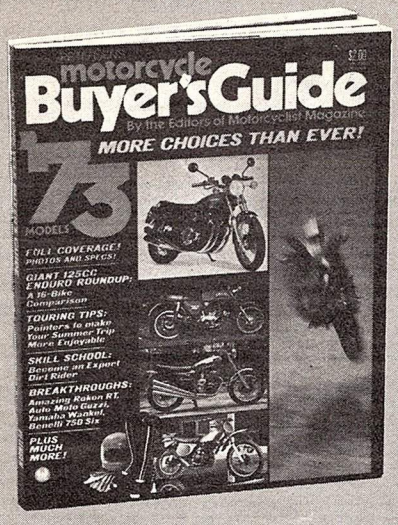
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THE AMA.....*continued from page 76*

One of the most important moves to date is the publication of a monthly newsletter "AMA Report" which goes to all members, a small but hard-hitting flyer which alerts the enthusiast to legal and organizational problems the minute they come up. But how about a similar technical safety bulletin to all clubs, geared exclusively to reducing the alarming accident and death problem attendant to the rising motorcycle population?

On the subject of boosting membership, the motorcycle dealer is the obvious key to that problem. Then why is there no obvious cooperative campaign going through the AMA and the MIC (Motorcycle Industry Council) with posters, benefits, whatever, to encourage club participation and National membership at the shop level?

The prospects of these and other expansions of endeavor are spelled out in one word—money—and since almost half of the organization's income is derived from membership fees, it appears that a strong membership drive is of the highest priority. As Gene Wirwahn points out, "Even though we have almost doubled membership growth in the last three years, it is not increasing fast enough to keep pace with the actual needs. Just think what could be accomplished if every one of us brought in a new member today; overnight our strength could be doubled!" Actually Gene's appraisal is a soft one, from the standpoint of manpower at least, since the included expenditure chart shows that only 8% of the total income is pulled off by salaries. It is an exciting speculation. But at the off-road competition club level it is a weak one. Many of the dirt clubs in Southern California, for example, are so antagonistic and disconcerned with national welfare and coordination with the east that they refuse to even check the validity, or even possession of, AMA cards during registration at one of their events. They even put the subject up for vote at a recent District meeting. With this kind of limp cooperation or, rather, complete lack of it, progress comes hard.

What is the AMA? It is you and me. Why is the AMA? It is to promote motorcycling. And the answer to the third question—Do we need it?—is merely to inquire of ourselves and our motives. For there never has been, nor will there ever be, anyone other than you and me who gives a damn about our sport other than the fast-buck artist who comes and goes with the rise and fall of the monetary tide. This structure took fifty years to build. The architecture isn't perfect but it has weathered every storm. We at least know where the cracks are, and if we don't know how to patch them by now we sure don't know how to begin anew. •

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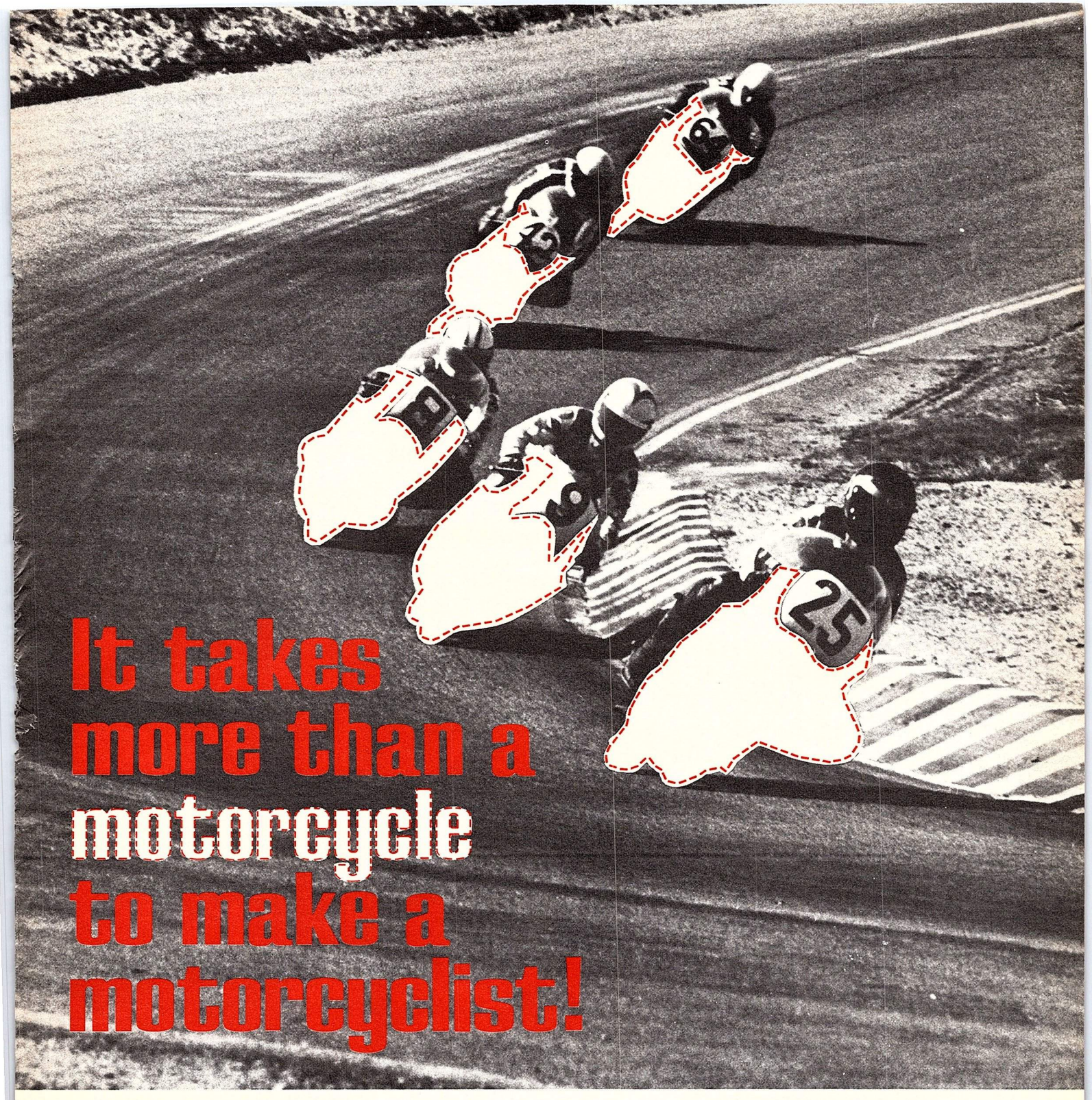

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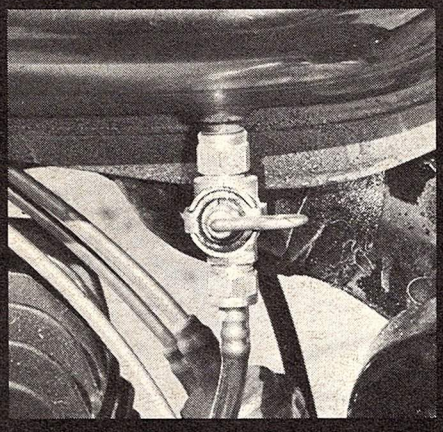
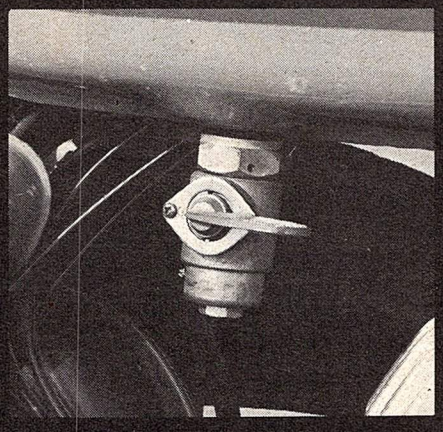
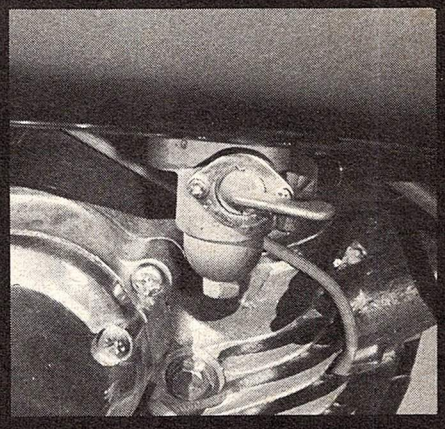
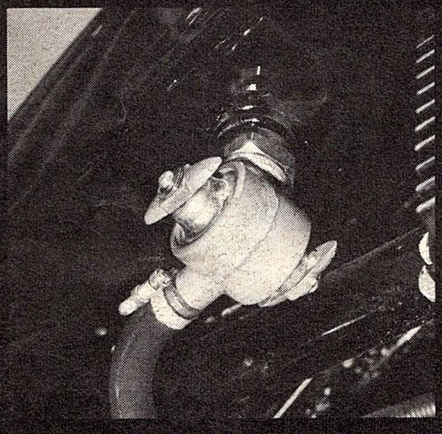
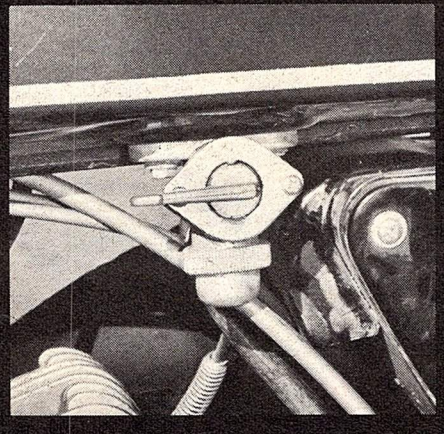
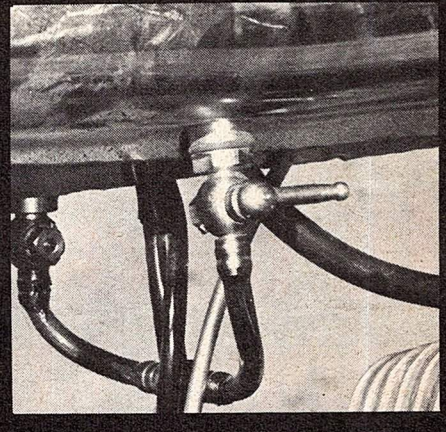
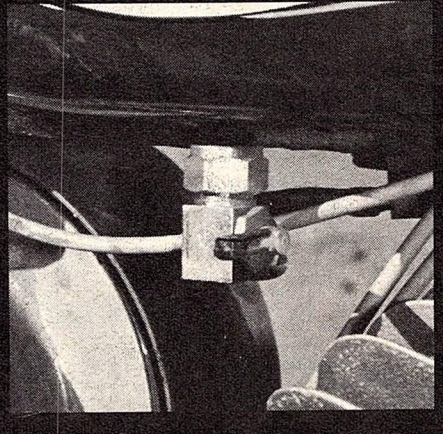
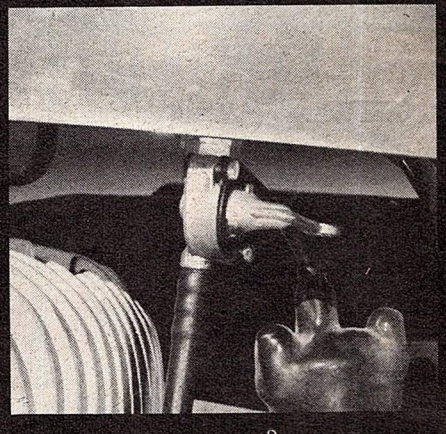
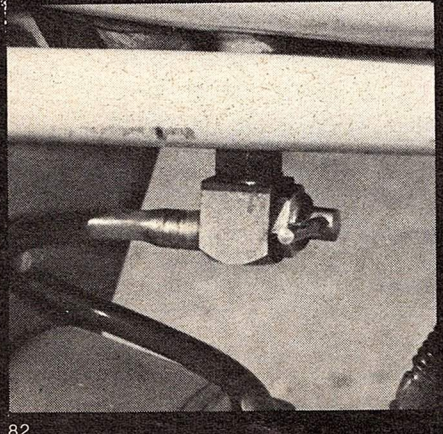
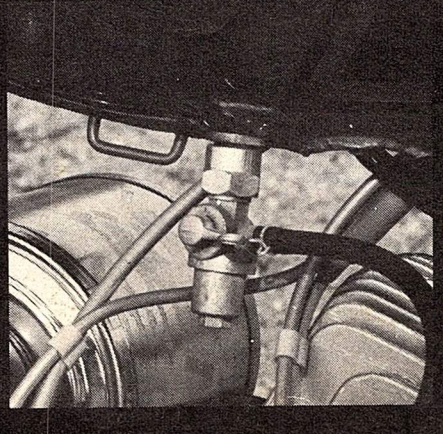
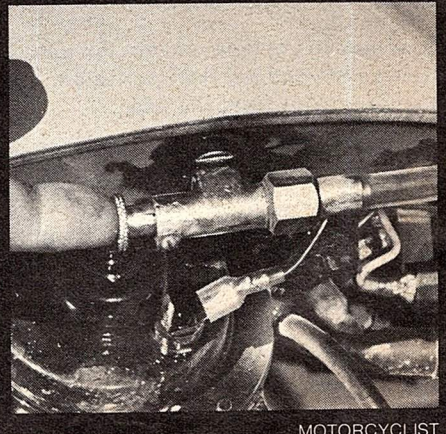
The Last Page

Ah, yes, there's nothing like standardization!

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Introducing the Kawasaki MC-1 mini-size enduro.

It's just the right size for a beginner. For a boy or girl. For a lady. For a sportsman. For an enthusiast.

The size: a compact 68.1" long, 30.1" wide, 37.2" high on a 43.3" wheelbase.

It's powered by Kawasaki's proven rotary valve engine. This 89cc unit develops 5.8 ft. lbs. of torque at 5,500 rpm. Pretty healthy for a small package.

Power is transmitted by Kawasaki's smooth 5-speed gearbox. An important advantage, as most minibikes still only offer 4-speed transmissions.

The MC-1 weighs in at only 165 lbs. And this gives it a very good power-to-weight ratio.

Which leads us to climbing ability.

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Braking is outstanding. At 22 mph this machine will come to a dead stop in just 21 feet.

You can see for yourself that the MC-1 is built for the trail. It's also fully street legal—so it's probably going to get a lot of workouts between the house and the hardware store. And the beauty parlor. And the Little League park.

If you're looking for a big performer in a small package, look up your Kawasaki dealer in the Yellow Pages.

Then come on in and size up the MC-1, the world's newest mini-enduro.

Kawasaki MC-1 90

Engine type:
2-stroke, single cylinder, rotary disc valve
Displacement: 89cc
Bore & stroke: 1.85" x 2.04"
Ignition system: Magneto
Max. torque:
5.8 ft. lbs./5500 rpm
Climbing ability: 29°
Transmission:
5 speed/1-N-2-3-4-5
Tire size: front 2.50 x 16; rear 2.75 x 14
Overall length: 68.1 in.
Overall width: 30.1 in.
Overall height: 37.2 in.
Wheelbase: 43.3 in.
Ground clearance: 6.3 in.
Weight: 165 lbs.

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